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Colorado Birds

The Colorado Field Ornithologists' Quarterly



Red Crossbill Types in Colorado

The Fort Collins Tropical Parula

Piñon Canyon Expansion: Effects on Birds & Birding

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Grace's
Warbler, near
Walsenburg,
Huerfano
County, May
22, 2005.
Photo by Tony
Leukering

Cheapskates? The Economics of Birding

Nathan Pieplow

Note: When I took on this editorship, I decided that I would never write a Letter From the Editor unless I had something important to say. I still don't think of this as a regular column, but I keep finding issues that I feel strongly about—so I keep writing.

Last August, National Public Radio's *Talk of the Nation* program aired a segment on the practice of tipping for service in modern America. Someone asked whether certain groups of people tend to tip in particular ways. Amy Dickinson, advice columnist for the Chicago Tribune, responded:

Years ago I was a waitress on [Block Island, RI], and at the tail end of the summer, for one weekend...a couple of thousand birders came. Everyone was dreading it, and I couldn't figure out why, because it was going to be flooded with people. And they said, "Ugh, so cheap, they're *cheap!*" And you know what? They were! Let me tell you, birdwatchers are *cheap!* (NPR 2006).

Those who disagree with Ms. Dickinson will rightfully accuse her of stereotyping. But this spring I started to wonder whether this stereotype might fall into the most dangerous and insidious category of stereotypes: the ones that coalesce around a grain of truth.

I didn't think much about Ms. Dickinson's claim until I was given the task of filling field trips this spring for the Colorado Birding Trail. We began advertising for the trips at the Snow Goose Festival in Lamar in February, and continued the publicity on the web, on CO-Birds, and in this journal. We got coverage in the Denver Post, in many local newspapers, and on Colorado Public Radio. Eventually most of the trips attracted a good number of participants and ran beautifully, getting rave reviews from all involved (see the field trip reports on page 150 of this issue). But for a while there in April, I started to feel the intense pressure and frustration familiar to many who are charged with asking others to open their pocketbooks. I was getting the distinct impression that many birders were reluctant to spend money to bird on someone else's land.

Around this time I had a conversation with a good birding friend of mine about the private ranches in Eastern Colorado that he frequently

visits. Knowing the awesome potential of those properties as migrant traps, I suggested to him that he talk to the landowners about joining the Colorado Birding Trail, to increase the flow of birders to their land and thereby generate some income and some incentive for conservation. He balked at the idea for fear that he would have to begin paying admission. He once told me that he



Frank Ranch, Prowers County. Photo by Jeff Dunning

didn't believe any birder would ever pay \$10 to bird a private ranch—at least not outside Chico Basin. I wondered how true that was.

Some of us, I think, still like to imagine that birding is a free hobby—one of the few egalitarian, cost-free pastimes left in the country. But it's not cost-free. It's not even close. First there are the startup expenses: you simply can't bird without binoculars, and those ain't cheap. Then there's the scope. The camera, the BirdPod, the State Parks pass. The plane ticket to an exotic locale. The many, many tanks of gas. If you're reading this, you've paid for several if not all of these. Let's face it: the way most of us practice it, birding is strictly a middle-to-upper-class experience. It's free in the same way that a day of skiing is free once you've purchased your equipment, your hotel, and your lift ticket.

Like many of you, I'm sure, I sometimes cringe at how much I spend on birding. Gas prices notwithstanding, I birded the Utah border three of the four weekends in April this year. And when Painted Redstart and Lawrence's Goldfinch showed up this spring, I chased them without stopping to consider the cost. I feel guilty about spending so much money sometimes. But at the end of the day, I still spend it because it matters to me. The twitches, the bird song CDs, the big trip to Venezuela, the upgrade to better sound recording equipment—all these are in my budget because I care about them.

When I first got involved with the Birding Trail, \$10 did seem like a lot of money to pay to access a property—even Chico Basin Ranch.



Taylor Ranch, Prowers County. Photo by Jeff Dunning

Now it doesn't seem like so much. The way I think about my money has changed. I'll admit that on occasion I have let my guilt about my birding budget prompt me to avoid paying entrance fees, CFO membership dues, and the price of convention registration. I know what it's like to feel "the squeeze." But the squeeze is all in our heads. It's a mental exercise by which we

justify to ourselves the money we spend and the money we do not spend.

Birding is not free. Never has been, never will be. If we care enough to buy the binoculars and the scope and the tank full of gas, we should consider what else we care about in the world of birding. If we want birding to be a form of ecotourism, then we need to plan ahead, budget for it, bring our cash, and share the wealth. Otherwise we risk becoming bird consumers rather than bird benefactors.

When we do so, we make this wonderful hobby unworthy of pursuit.

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Nathan Pieplow, 4745-B White Rock Circle, Boulder, CO 80301, editor@cfo-link.org

Moving CFO Forward

Bill Schmoker

Greetings, CFO members! I hope this note finds you well and having a birdy summer.

I'd like to open by acknowledging the hard work and accomplishments of my predecessor, Norm Lewis. As you've read in his "Across the Board" profile from the last issue, Norm wears many hats in the birding community and undoubtedly will continue his involvement on many fronts beyond CFO. Throughout his tenure as president, CFO has evolved in many positive ways. I hope to do my part to maintain that progress.

To succeed at this, I ask for the continued involvement of our membership. Nothing would please me more than to have members internalize the feeling of CFO as "us," not "them." Give

it a try—for example, if you are mentioning the next convention to a birding buddy, see how it feels to say "We are going to be meeting next May in Cañon City." If you run into a birder who doesn't know about COBirds or isn't yet a member, invite them to check out "our" website and journal. CFO has printed new business cards and pamphlets, and I would love to send you some to keep tucked in your field guide or car to hand out to folks you run into while birding—just drop me a note and I'll get them to you. Along those lines, please let me know if you have ideas, concerns, trips you would like to lead or see offered, suggestions for awards, ways that you would like to contribute, or anything else on your mind!

On a different tack, I'd like to thank everyone who made the Craig Convention happen. First, thanks to everybody who came! We had a fantastic turnout. The CFO convention is one of my favorite birding events every year, not just because of the banquet speaker and great birding but because it is such a great chance to see folks from around the state whom I normally don't run across. I hope that those of you who attended got a lot out of the convention as well. Many people worked really hard behind the scenes to plan the convention and work out all of the logistics. Extensive board meeting time was dedicated to the endeavor in the year leading up to the convention and all board members contributed to the effort, so I am grateful to them for their work on this. At the risk of leaving someone out, I'd particularly like to recognize Tom McConnell for spearheading the

Nothing would please me more than to have members internalize the feeling of CFO as "us," not "them."

convention, and especially for lining up the hotel facilities and laying out the initial framework of the long weekend. Maggie Boswell and Lisa Edwards organized the monumental task of handling registrations, field trip requests, lunch orders, etc. Larry Semo was on point for field trip coordination, and all of our volunteer field trip leaders deserve our hearty thanks as well. Rachel Hopper put the brochure together and her extensive notes from previous conventions acted as a guide for making sure everything necessary got done in Craig. And thanks again to Norm Lewis for being the ringmaster of it all. Here's to seeing you all next year in Cañon City!

Finally, I'd like to welcome Bill Kaempfer and Connie Kogler to the board. As of my submission deadline our third board vacancy remained unfilled, but I know that whoever fills the spot will bring just as great a wealth of experience and leadership to the position as Bill and Connie do. The volunteer commitment of our new and continuing board members is critical to the continued success and growth of the organization.

Hope to cross paths with you in the field!

Bill Schmoker, 3381 Larkspur Drive, Longmont, CO, bill.schmoker@gmail.com

CFO BOARD MINUTES

April 21st, 2007
SWCA Environmental Consultants Office
Broomfield, Colorado

Lisa Edwards, CFO Secretary

The regular quarterly meeting was held April 21st, 2007 at 11:10 a.m. Board members present were Vice President, Bill Schmoker; Secretary, Lisa Edwards; Treasurer, Maggie Boswell; directors Jim Beatty, Rachel Hopper, Tom McConnell, Mark Peterson, Nathan Pieplow, and Larry Semo. President Norm Lewis and Director Glenn Walbek sent their regrets. The minutes of the February meeting were approved.

Treasurer's Report

CFO's current liquid assets are \$37,896.55. The Treasurer's report was approved. Victor Emanuel's expenses for the convention will be about \$1200.00.

Committee Reports

COBirds—Mark Peterson. The list is running very well. We have over 830 subscribers.

CFO website—Rachel Hopper. Online convention registration is

working very well. Mr. Bill's quiz continues to be a big draw. With the proposed upgrades we will be able to update the county birding website information. The CFO website has been moved to GoDaddy from Hostway. We will also be moving the County Birding website from Front Range to GoDaddy. In addition, the CBRC website is receiving upgrades.

Colorado Birds—Rachel Hopper and Nathan Pieplow. The March/April issue has been mailed. The July issue already has at least 10 articles. Tom McConnell will be the next board member to be profiled in Colorado Birds.

Special Awards—Tom McConnell. A plaque will be ordered to present to Joe Himmel at the Craig convention to thank him for his contributions to Colorado Birding. Tony Leukering will present the award. There was discussion about the Ron Ryder award.

Nominating Committee—Glenn Walbek. The following slate of officers will be presented to the membership for election at the 2007 Convention in Craig, Colorado: President, Bill Schmoker; Vice President, Jim Beatty; Treasurer, Maggie Boswell; Secretary, Lisa Edwards. There was discussion about filling the vacant director positions. Larry, Norm, and Bill will talk to possible board members. Lisa will make more copies of the director's book for existing and new directors. Any needed updates should be brought to her attention.

Field Trips—Bill Schmoker. Colorado Birding Trail field trips are now posted on the CFO website.

Project Fund/Youth Fund—It was suggested that a spreadsheet be set up showing all historical Project and Youth Fund proposals and grants.

Membership—Jim Beatty reported that there are 421 active members. There is a noticeable response to posting to COBirds. We should continue to post the index of Colorado Birds to COBirds.

Ideas for increasing membership:

- Project fund approvals on CFO website.
- Respond to RFIs on COBirds.
- Post cover of Colorado Birds current issue on CFO website.
- Continue to support and have representation at the various birding festivals held in the state—e.g., Lamar, Cortez.
- Brochures and business cards to hand out.
- Extra copies of journals to hand out.

2007 Convention:

- Sales table for CFO Merchandise—Maggie Boswell. Maggie will send out a schedule to everyone to sign up for time slots to help.
- Lunches—Lisa Edwards, Mark Peterson, Bill Schmoker, Rachel Hopper. On Wednesday, June 6th Lisa will call City Market with the numbers. Mark and Bill said they would be willing to be up at 5:30 to meet City Market at the hotel to pick up the lunches. Lisa will have a list of the people who will get lunches each day.
- Audiovisual—Larry Semo, Norm Lewis. They will bring equipment.
- Victor Emanuel—Norm Lewis. Norm will host Victor.

- Dinner—Rachel Hopper, Lisa Edwards, Maggie Boswell. Need Holiday Inn numbers by 5 p.m., Monday, June 4th. Lisa can provide the numbers. Maggie will provide the check to pay Holiday Inn.

- Bird Sighting list—Bill Schmoker and Tom McConnell. They will get the boards and easels.

- T-shirts—Rachel Hopper, Maggie Boswell, Larry Semo. They will pick up the shirts in Fort Collins. Maggie will check with David about number to order. Larry will hand out the field trip leader shirts.

- Field Trips—Larry Semo, Lisa Edwards. We will work to cancel and add trips as needed. Regarding trip

choices, Lisa will have a printed list showing attendees for each field trip.

- Vendors—Lisa Edwards. Lisa contacted all vendors via email and explained that we would not be having a trade show this year, due to lack of space.

New Business

2008 convention—It will be held at the Quality Inn, Cañon City, Colorado on May 16th, 17th and 18th, 2008. Larry Semo will contact several potential speakers. The next board meeting will be held at Bonny State Park near Burlington, Colorado, at 11 a.m. on September 8th, 2007. The board meeting was adjourned at 3:30 p.m.

CFO AWARDS

Landowner Appreciation Plaque Awarded to Sheldon Zwicker

Joe Roller

On 24 April 2007, on behalf of the Colorado Field Ornithologists (CFO), Norm Erthal and Joe Roller presented a Landowner Appreciation Plaque to Sheldon Zwicker, whose ranch near Cortez hosted a male Hooded Oriole for several weeks last summer (2006). The accompanying photo shows Norm, Joe, and Mr. Zwicker with his martial arts student, Jason Keith.

On Father's Day, 18 June 2006, Norm and Joe, in the course of exploring Montezuma County, stopped by the ranch 16 miles west of Cortez in the riparian area of McElmo Creek. On previous trips Norm had noticed the robust and floriferous trumpet vine hedge along Mr. Zwicker's driveway and made a point of stopping by. The ranch house had been built by Sheldon's grandfather soon after he returned from World War I; the vine had been growing since about 1919, and

Norm speculated that it could be a magnet for hummingbirds and other species wandering to southwest Colorado from nearby Arizona.

Sheldon, who has a degree in avian biology from Colorado State University, was a genial host and invited Norm and Joe to check out the massive and colorful hedge, which was alive with female and juvenile Black-chinned Hummingbirds. Within minutes Norm called

out, "Hooded Oriole!" This was the second Colorado record and the first that could be "chased." Word soon spread to eager birders, and an estimated eighty of them made the journey to the now-famous hedge over the next few weeks, many driving seven or eight hours from the Front Range. The last known sighting of the oriole was on 19 July 2006.

Sheldon was nonplussed and amused by the visiting birders, noting that two birders arrived right after returning from a trip to South America. Another couple from the Orient spoke no English, but eagerly viewed the Hooded Oriole, thanking Mr. Zwicker with gestures to their field guide.

Colorado Field Ornithologists began giving Recognition Plaques in 2000, and deeply appreciate hosts like Sheldon Zwicker. Sheldon's plaque was the ninth to be awarded.

Joe Roller, 965 S. Garfield Street, Denver, CO 80209, pergrm@aol.com



Norm Erthal and Joe Roller present Sheldon Zwicker with CFO's plaque of appreciation, April 29, 2007. Photo by Abby Modesitt

Tom McConnell

Bill Schmoker

Tom grew up in Colorado Springs in the 1950's and 1960's when it was still a "small" city. His folks were transplants from Ohio and were really into the mountains. His Dad identified all of the trees and rocks and his Mom knew all of the birds and wildflowers. Thanks to them, Tom still has the desire to be outdoors and to learn more about his surroundings. When Tom met his wife Kay at Western State in the 70's, she went along with him on forays into the mountains, camping, jeeping, and backpacking to many places in western and southwestern Colorado, always with his trusty brown-covered edition of the Golden Guide along. Although he was not yet a serious birder then, Tom remembers those noisy sparrows at timberline with black and white stripes on their heads, and especially a singing Hermit Thrush.

After a few years of raising babies and working in the building materials industry, Tom and Kay moved to Glenwood Springs in the late 80's. Their kids Shannon and Danny loved building their home at No Name on the Colorado River. Kay really liked Glenwood too, saying that it was just like Gunnison without the winter. Building their house took a year, but the project didn't stop there. Each spring they would add another level of decks, until they finally really reached the Colorado River with the fourth level. One day at work Tom mentioned the deck to an acquaintance who had recently floated by the house, and he said, "oh, *you're* the Deckman!" The nickname stuck. Soon train crews and rafters were calling Tom "Deckman," and eventually Kay bought Tom a personalized license plate that reads "Deckman" (since, unfortunately, "Deckman" was already taken).

The McConnells have had and still have great birds at No Name. One day while Tom's mom was visiting, a Rose-breasted Grosbeak visited their feeders. The bird really sparked Tom's interest, and soon afterwards his mom gave him a brand new copy of "Bob & Bob" (Andrews' and Righer's seminal *Colorado Birds*). Tom was amazed at all the species of Colorado birds that he had never seen and the interesting places that his family had never visited. That summer they bought a pop-up camper and visited Arapaho National Wildlife Refuge and Browns Park.

The next spring found the McConnells at Cave Creek in Southeast Arizona. While hanging a hummingbird feeder from the camper, Tom found himself nose-to-nose with a Magnificent Hummingbird. He was hooked by the hummer and by the Elegant Trogon a few minutes later. In the same year the new "Birder's Guide to Col-

orado” was published. Kay and Tom loaded up the camper and went out birding to locations in the guide almost every weekend. Now fully bitten by the birding bug, they couldn’t stop, and in 2005 they sped off in the camper to Texas and western Mexico.

As Tom & Kay both really got into birding, they were surprised at how many other birders were out there. They attended

the Durango CFO convention, met many of the state’s active birders, and were taken on some outstanding field trips. Tom has been a CFO member ever since. Over the past three years Tom has served as a CFO director and Awards Committee chair. Closer to home, Tom serves on the Roaring Fork Audubon board as Field Trips chair and Webmaster. Deservedly, Tom is very proud of his field trip program, and the Roaring Fork Audubon membership has benefited greatly from his organization and dedication. Tom also uses spring and summer to do work for the Rocky Mountain Bird Observatory, conducting point count transects and censusing Breeding Bird Atlas blocks. Ever eager for the next birding trip, Tom and Kay are packing up their camper for another adventure as of this writing!

At the completion of his term this summer, Tom is stepping down from his leadership role in CFO. I know I speak for the rest of the board and the membership in thanking Tom for his hard work, sage advice, and advocacy while on the board. We know it wasn’t always easy for him to make the trek over the divide for Front Range meetings, but Tom was always up for it. We also know that while we will miss his leadership on the board, we will still have the privilege of hoisting bins with Tom anywhere birds can be found, whether at an organized gathering like a CFO convention or Audubon trip, or in a serendipitous meeting in pursuit of birds somewhere in Colorado or beyond. Thanks again, Tom.

Bill Schmoker, 3381 Larkspur Drive, Longmont, CO, bill.schmoker@gmail.com



Tom McConnell near Carbondale, May 2007. Photo by Kay McConnell

Spring 2007: Launching the Colorado Birding Trail

Jim Beatty

The Colorado Birding Trail was inaugurated in February 2007 at the annual Snow Goose Festival in Lamar. This spring the CBT, Rocky Mountain Bird Observatory, and CFO continued the rollout of this joint effort by organizing one-day and weekend guided trips to and beyond some of the private ranches that have graciously opened their gates and lands to birding enthusiasts. This is an exciting step forward in improving birding coverage of Colorado lands. In the past, birders have had to rely primarily on public lands for observing the state's amazingly diverse birdlife; now, with the establishment of the CBT, ranchers and communities have agreed to host guided tours for limited numbers of participants. Some of these outings include meals, entrance fees, and even accommodations, along with the opportunity to bird large tracts of uncharted avian territory. This is particularly valuable on the plains of eastern Colorado, where very large ranches are privately owned, public property is limited, and much of the "migrant trap" riparian habitat is not accessible to the birding public. But this situation is not restricted to eastern Colorado, as much of the riparian habitat in the state is privately owned, although public lands are more extensive in the central and western portions of the state.

Karval Mountain Plover Days: The Lincoln County hamlet of Karval (population just 48) hosted the First Annual Karval Mountain Plover Days on April 28th and 29th. Seth Gallagher was the tour leader for the twenty-two festival participants, who visited several private ranches and surrounding communities on Saturday. They were treated to excellent views of Mountain Plovers and Burrowing Owls, along with a good variety of waterfowl and prairie species. All meals were provided by the community, and the gastronomic highlight was an evening barbeque hosted by the Future Farmers of America that was attended by over fifty folks, including many locals. That was followed by a cowboy poetry reading in the calm moonlight—unfortunately, Baxter Black of Public Radio fame couldn't attend. On Sunday the tour continued to another ranch and other area hotspots. Again, Mountain Plovers and Burrowing Owls were spotted along with a number of migrants. The species total topped forty. Perhaps the most intriguing sighting was of a possible Wood Thrush that couldn't be confirmed, but Golden Eagle and other raptors, including some on nests, sent everyone home happy.

Lamar and Two Buttes

Lamar was the center of activity for the Two Buttes weekend led by Peter Gent on May 5th and 6th, as the group of eight visited sites in Baca and Prowers Counties. The heavy snows of the preceding winter had melted and left in their place tall, emerald stands of native grasses and wheat in an area usually known for its parched landscape, especially in the drought-stricken springs of recent years. The stories by the locals of the past winter's snows were almost as captivating as the birds. The tour visited several private ranches, including the Rocking K, owned by the Grahns, and the Taylor and Frank ranches. Of course, the well-known migrant traps around Lamar and the Two Buttes area were also stops of major importance. The avian highlights included Mountain Plover at ten feet, a resting Common Poorwill, Barn Owl, Eastern Bluebird, Chestnut-sided Warbler, Kentucky Warbler, Nashville Warbler, Yellow-throated Warbler, and White-eyed Vireo. The ranches provided fascinating historic and geologic highlights that included the "hanging rock" at the Taylor ranch where one of Colorado's first documented lynchings took place in 1873 when



Rocking 7K Ranch, Prowers County. Photo by Jeff Dunning

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Taylor Ranch, Prowers County. Photo by Jeff Dunning

frontier justice was swift and final, and Native American rock art and extensive fossilized oyster beds from millions of years ago on the Frank ranch. The hosts had many interesting stories of ranch life and the food was good—including the innovative field lunch in a dry stream-bed to avoid the wind. The participants were quite happy as they departed after seeing over 70 species of birds and enjoying these unique ranches and the hospitality of their hosts.

Picketwire Canyon: Roger Linfield led a group of five hearty hikers on an extensive walking tour of the very under-birded Picketwire Canyon on May 19th. The five-mile hike in southern Otero County started early and produced many excellent looks at the resident, colorful birds including Red-headed Woodpecker, Yellow-breasted Chat, and Orchard and Bullock's Orioles. The most exciting sighting was the mating of a pair of Summer Tanagers, which may be the first documented case of attempted breeding by this species in Colorado; breeding has been suspected before, but not previously confirmed. Other interesting species included Black-throated Sparrow, Eastern Bluebird, Blue Grosbeak, and Mississippi Kite. Everyone thoroughly enjoyed this trip because of the great scenery, wonderful looks at the brightly-colored birds, and the sense of excitement in exploring an unfamiliar place with much potential.

Hepatic Tanagers near Kim: Norm Erthal and Tony Leukering led a Hepatic Tanager-finding expedition into the ranches near Kim in Las Animas County on May 12th and 13th. The trip was a great success, locating three Hepatic Tanagers on the Bader Ranch—two males and a female—as well as an adult male Summer Tanager on the Lazy UO Ranch that unfortunately only Tony saw. Other highlights included Yellow-billed Cuckoo and nest-building Mississippi Kites at the Mayfield Ranch.

All of the participants of the various trips were enthusiastic about their experiences. The birds seen met or exceeded expectations, the meals were good, and the hosts were gracious and entertaining with their stories of local history, geology, and ranch life. Everyone enjoyed seeing some of Colorado's most interesting birds in new and interesting places that haven't been accessible in the past. A special note of thanks goes to the leaders, who did an outstanding job of making these trips enjoyable for all.

Jim Beatty, 165 Twelve Point Buck Trail, Durango 81301; jdbeatty@bresnan.net

Red Crossbill Types in Colorado: Their Ecology, Evolution, and Distribution

Craig W. Benkman

Introduction

Colorado is blessed with conifer-clad mountains and with them come crossbills (*Loxia* spp.). They are specialized for foraging on seeds in conifer cones. Thus, when conifers produce large cone crops, crossbills often move in to feed and breed. Although the more northerly boreal White-winged Crossbill (*Loxia leucoptera leucoptera*) can at times be found in the high-elevation forests of Engelmann spruce (*Picea engelmannii*) south to the San Juan Mountains and into northern New Mexico, Red Crossbills (*L. curvirostra* complex) are more common and widespread in Colorado. Red Crossbills are a morphologically diverse group. Initially, the size variation among crossbills caused taxonomists to split it into many subspecies (Griscom 1937). However, research by Jeff Groth (1993a) showed that it was more accurate and informative to categorize Red Crossbills by their flight calls rather than as geographic subspecies.

Red Crossbill Call Types and Foraging Methods

Nine 'call types' are recognized in North America (Table 1). Several are indistinguishable by bill and body size (e.g., call types 1 and 4), but most of them do differ morphologically from other call types (Groth 1993a). Each of the call types we have studied (call types 2, 3, 4, 5, 8, and 9) is specialized for feeding on a single species of conifer (Benkman 1993, 2003, Parchman and Benkman 2002). This does not mean these types will not forage opportunistically on other conifers; rather, each call type has evolved to exploit a single species or subspecies of conifer. Such specialization requires that crossbills can reliably find a particular type of conifer seed, because crossbills are less efficient than other finches at foraging on non-conifer seeds (Benkman 1988). The most important characteristic of a conifer for all crossbill types is that it must reliably hold its seeds in closed or partially closed cones through late winter and into spring. If cones are not closed or partially closed, less specialized species will deplete the seeds.

The decurved upper and lower mandibles of crossbills enable them to exert and withstand the strong biting forces at the tips of their mandibles necessary for forming gaps between cone scales (Fig. 1). If the mandibles were straight like a Pine Siskin's, crossbills would

be unable to exert much force at the mandible tips before shearing forces would break them off. Once crossbills form gaps between the scales, the lower mandible is abducted to the side, exposing the seeds at the base of the scales (Fig. 2). Crossbills then use their extendable tongue (as in hummingbirds and woodpeckers, the hyoid apparatus of a crossbill's tongue extends around the back of its skull) to lift the seed out, and they then husk the seed and swallow the kernel.

Bill size, especially bill depth, determines how fast crossbills can remove seeds from between closed cone scales, whereas the structure of the horny palate of the upper mandible is critical for husking seeds (Benkman 1993). Crossbills have evolved bill and body sizes that are about two to three times larger than their redpoll-like ancestors. The large bill and associated musculature are critical for providing the necessary forces for spreading apart cone scales and extracting seeds from closed or partly closed cones. However, the conifer seeds that crossbills regularly eat are on average rather small. Thus, crossbills have evolved a horny palate structure that enables them to handle small seeds quickly (Benkman 1988). In particular, the lateral grooves in the palate of the upper mandible are narrower than in other cardueline finches, allowing crossbills to secure small seeds with their tongue while they crack and remove the seed coat with their lower mandible.



Figure 1. This shows a male type 9 or South Hills crossbill biting between lodgepole pine cone scales so that he can then laterally abduct (spread) his lower mandible to the side (see fig. 2). Crossbills generally forage near the distal end of the cones where most of the seeds are located.

Because bill size and palate groove width influence how rapidly seeds can be removed from cones and husked, respectively, conifer species with seeds of different sizes favor the evolution of crossbills of different sizes. For example, the smallest New World Red Crossbill, call type 3, which is found most commonly in the Pacific Northwest, is adapted to and more efficient than any other call type at foraging on the small thin-scaled cones

of western hemlock (*Tsuga heterophylla*) (Benkman 1993). On the other hand, these type 3 or hemlock crossbills are very inefficient at foraging on seeds and cones larger and harder than those of Douglas-fir (*Pseudotsuga menziesii*). Hemlock crossbills should be rare in Colorado, and when found are likely to be associated with Engelmann spruce. I do not know of records from Colorado, but specimens have been collected in both New Mexico (New Mexico State University Vertebrate Museum) and Arizona (Monson and Phillips 1981).



Figure 2. This shows a female type 9 or South Hills crossbill laterally abducting her lower mandible to spread apart the scales of a lodgepole pine cone. Her asymmetric jaw musculature enables her to exert strong abduction forces to spread apart cone scales, exposing seeds at the base of the scales.

The next largest crossbill commonly found in the West is call type 4, the Douglas-fir crossbill (Benkman 1993). Although Douglas-fir is widespread in Colorado, the Rocky Mountain subspecies of Douglas-fir, unlike the one in the Pacific Northwest, does not hold seeds in its cones consistently through winter. Thus, although Douglas-fir crossbills are common in the Pacific Northwest, they are much less common in the Rocky Mountains. When found, they are likely to be foraging on seeds of either Douglas-fir or Engelmann spruce, because they have difficulty removing seeds from the hard woody cones of Rocky Mountain lodgepole pine (*Pinus contorta latifolia*) and are unable to remove the hard woody seed coats of Rocky Mountain ponderosa pine (*Pinus ponderosa scopulorum*) (Benkman 1993).

The largest-billed crossbill in the New World is call type 6 (Groth 1993a), which has been found in the United States mostly in southwestern New Mexico and southeastern Arizona. It may have occurred occasionally in Colorado. However, because it is associated with pines in Mexico, and given the decline of its habitat, one should not hold out hope for seeing it in Colorado.

Only two conifer species in Colorado produce seeds reliably

enough to support crossbills from year to year. They are Rocky Mountain lodgepole pine and Rocky Mountain ponderosa pine, and not surprisingly, each of these two species supports a crossbill call type. These two call types are roughly intermediate in size between the small-billed hemlock crossbill and the massive-billed Mexican crossbill (Groth 1993a). The lodgepole pine crossbill, or call type 5, has a slightly smaller bill than the ponderosa pine crossbill, or call type 2; it also has disproportionately narrow palate grooves because lodgepole pine seeds are only about one-tenth the size of ponderosa pine seeds (Benkman 1993). These two call types are by far the most common crossbills in Colorado, and with effort, one should be able to locate both of them somewhere in Colorado in any given month, although with the extensive mortality of lodgepole pine in some parts of the state, finding lodgepole pine crossbills will become increasingly difficult. During good cone crop years where ponderosa pine and lodgepole pine co-occur, or if Engelmann spruce is having a large cone crop, both call types can often be heard at the same time.

Table 1. Geographic distribution of Red Crossbill types. Three types occur regularly in Colorado: Types 2, 4, and 5.

Type 1	Red Spruce Crossbill	Occurs in spruce forests of southern Appalachians and Pacific Northwest
Type 2	Ponderosa Pine Crossbill	Widespread and present all year in Colorado; the most common call type in Colorado
Type 3	Western Hemlock Crossbill	Presumed rare in Colorado
Type 4	Douglas-fir Crossbill	Uncommon in Colorado and central Rocky Mountains
Type 5	Lodgepole Pine Crossbill	Widespread and present all year in Colorado, but less common than Type 2
Type 6	Sierra Madre Crossbill	Occurs from Mexico north to southern Arizona and New Mexico; unlikely in Colorado
Type 7		Uncommon, scattered in and between Cascades and Northern Rockies
Type 8	Newfoundland Crossbill	Newfoundland; possibly extinct
Type 9	South Hills Crossbill	Restricted to South Hills and Albion Mountains in southern Idaho where red squirrels are absent

Conifer Seed Availability

Understanding and predicting patterns of abundance of a given crossbill call type requires knowledge of the cone ripening and seed shedding patterns of the conifers. Once these patterns are understood, crossbills become more predictable.

All Colorado cone-bearing conifers vary in seed production from year to year and may produce few if any seeds in a given area in a given year. When they do produce seeds, their seeds and cones ripen over the summer, so that by early autumn, seeds are mature and cones are fully formed.

Crossbills begin moving in search of large developing cone crops in late May (Benkman 1987). Large cone crops are favored by crossbills not only because they contain more cones but also because they contain more seeds per cone, since pollen production and therefore pollination rates are correlated with seed cone production. This benefits crossbills because the more seeds per cone, the more rapidly crossbills can extract seeds from cones and the longer seeds are held in the cones (Benkman 1987).

Once crossbills locate a large developing cone crop, they begin nesting as early as the first weeks of July or August (Benkman 1990). For example, I have seen them building nests in ponderosa pine forests as early as 28 June (1983) in the Jemez Mountains, New Mexico, and as late as 25 August (1990) in Round Mountain Campground, Pike National Forest. Crossbills also begin nesting as early as the first week of July while foraging on white spruce (*P. glauca*) in the Northeast (Benkman 1990), and I suspect they will do the same if there is a large Engelmann spruce cone crop. Some crossbills remain paired between years (P. C. Keenan, personal communication), which presumably enables them to initiate nesting quickly.

Conifer cones usually begin to open and shed their seeds in early autumn. When cones initially begin to open, seeds become readily accessible to crossbills as well as to other seed-eaters such as Mountain Chickadee and Red-breasted Nuthatch. But as seeds are shed, crossbill feeding rates decline (Benkman 1987). How long crossbills remain in an area depends on the size of the cone crop and on weather conditions. Large cone crops and cool moist conditions tend to result in more seeds being held longer. Seed retention in the cones may often be sufficient for ponderosa pine crossbills to breed while foraging on ponderosa pine seeds in spring. Bailey and colleagues (1953) describe what were undoubtedly ponderosa pine crossbills nesting in ponderosa pine from January to April, and this call type may begin building nests as late in the spring as 9 April (in 2006 along Cherokee Park Road near the Colorado-Wyoming border) while feeding on the

seeds in cones produced the previous autumn. The same is probably true for crossbills foraging on other conifers such as lodgepole pine and Engelmann spruce, although Engelmann spruce is more likely to shed most if not all of its seeds earlier in the year. Indeed, all conifers with thin-scaled cones tend to shed their seeds early, which explains why crossbills only specialize on thin-scaled cones like western hemlock in humid areas such as the coast of the Pacific Northwest (Benkman 1993).

Lodgepole pine in the Rocky Mountains differs from other conifers in Colorado because it frequently produces serotinous cones. Serotinous cones remain closed until, for example, crown fires heat the cones, releasing the seeds. Serotiny is favored where stand-replacing disturbances such as fire are likely to occur during the lifetime of the plant (Enright et al. 1998). Seed predators, however, can select against serotiny by stealing the seeds from the cones before fire can open them, preventing trees from reaping the benefits of storing this canopy seed bank (Enright et al. 1998). Red squirrels (*Tamiasciurus hudsonicus*) are such a seed predator. Because of their extensive cone harvesting, red squirrels have favored trees that do not produce serotinous cones, so that in most areas fewer than half of the trees produce serotinous cones (Benkman and Siepielski 2004). In addition, selection by red squirrels has resulted in the evolution of fewer seeds per cone and a higher proportion of woody cone to seed, so that only about one percent of the cone is seed (Smith 1970, Benkman et al. 2001, 2003).

Because red squirrels remove much of the cone crop, lodgepole pine crossbills tend to be rather uncommon in Rocky Mountain lodgepole pine forests (Benkman 1999, Siepielski and Benkman 2005). Indeed, if you see large numbers of crossbills in Colorado, they are more likely to be ponderosa pine crossbills than lodgepole pine crossbills. Furthermore, crossbills are unable to access seeds in serotinous cones until the cones have aged and weathered for several years, allowing a few or more cone scales to separate (Benkman et al. 2003). Many of the older cones remaining on serotinous-coned trees are open, presumably because crossbills and perhaps other seed predators have shredded their scales. However, because the canopy seed bank accumulates and weathers gradually, lodgepole pine seeds are more likely than seeds of other conifers to remain available in a given area from season to season and from year to year. This undoubtedly explains why lodgepole pine crossbills can be found consistently in lodgepole pine forests in the Rocky Mountains, albeit at low densities. For example, in the mountain ranges east and west of Laramie,

Wyoming, lodgepole pine crossbills seem to be present year-round, year after year.

Systematics

Because the breeding distributions of the various call types overlap and two or more call types can breed in a given forest, call types are not geographic races or subspecies. However, definitive evidence that crossbills represent “good” species has been difficult to gather. Recent genetic evidence (Parchman et al. 2006) indicates that call types do not interbreed freely and that gene flow between call types is restricted. But these data are inadequate for determining whether hybridization is rare. Direct evidence on the mating behavior of crossbills while breeding is required. Unfortunately, the nomadic behavior of crossbills and their irregular timing of breeding have made it difficult to observe large numbers of breeding crossbills. Jeff Groth recorded about 30 “pairs” of male and female crossbills in the southern Appalachians (Groth 1993b). Although I suspect that they were likely “paired,” they do not represent a random sample of breeding crossbills. For example, most of these crossbills were not breeding when they were captured; therefore we cannot eliminate the possibility that hybrid pairs are simply less likely to remain paired after breeding.

Fortunately, in 1997 I found a common and resident call type (call type 9) in two isolated mountain ranges in southern Idaho, the South Hills and Albion Mountains, where other call types also occasionally breed. Call type 9 is abundant in these two ranges because lodgepole pine is plentiful and red squirrels are absent (Benkman 1999). Moreover, in the absence of red squirrels the frequency of serotiny is nearly 100 percent (Benkman and Siepielski 2004), so the trees store a huge canopy seed bank on which this South Hills crossbill relies. In these ranges, call type 9 is coevolving in an evolutionary arms race with lodgepole pine (Benkman 1999, Benkman et al. 2001, 2003). As the lodgepole pine has evolved increased seed defenses against crossbills, the crossbills in turn have evolved a larger bill. Two graduate students of mine, first Julie Smith and then Lenny Santisteban, have recorded over 1,500 breeding crossbills during the past six years and they have found that fewer than one percent of the breeding South Hills crossbills pair with a non-South Hills call type. This is much less frequent than the rate of hybridization found in, for example, sapsuckers or Darwin’s finches. Our estimate of reproductive isolation for South Hills crossbills is also stronger than that found for “good” plant species (Smith and Benkman 2007). We have not found hybrid pairs between lodgepole pine and ponderosa pine crossbills, which are the two other call types that breed in the South Hills, but our

sample sizes for these two call types are inadequate to argue that these two call types also represent species. However, our behavioral studies indicate that they are likely reproductively isolated from each other and we suspect that, with perhaps the exception of call type 7 (see Parchman et al. 2006), all call types may appropriately be recognized as species if one employs the biological species concept allowing occasional hybridization.

What is possibly most remarkable is that we strongly suspect that both ponderosa pine and South Hills crossbills have diverged from lodgepole pine crossbills within the past 7,000 years. Ponderosa pine in the Rocky Mountains has expanded its distribution from a rather restricted area in southern New Mexico and Arizona since the last glaciation; it reached northern Colorado only 7,000 years ago. As recently as 5,000 years ago, lodgepole pine in the South Hills was expanding from a much smaller distribution following a warm period

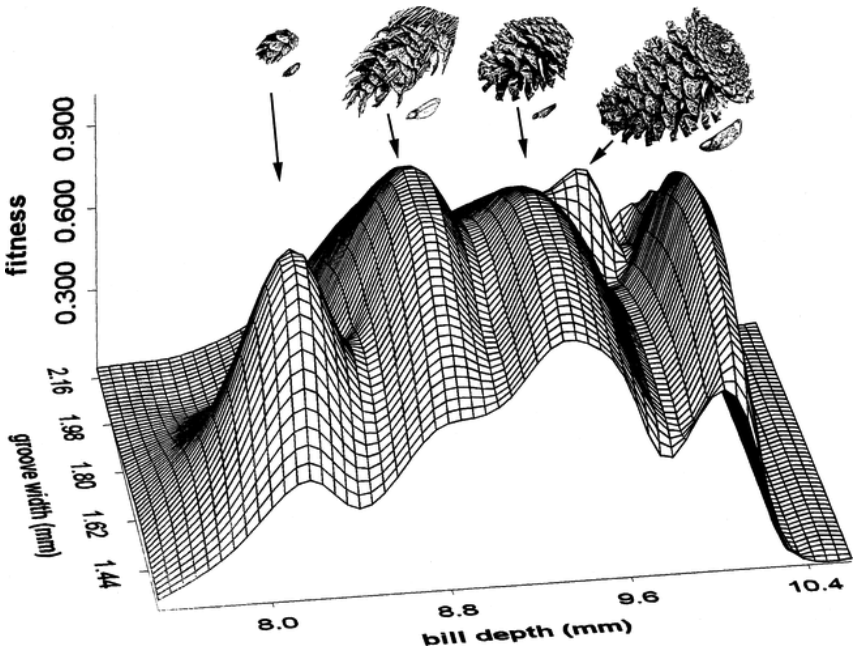


Figure 3: The estimated fitness (survival) for Red Crossbills in relation to variation in bill depth and palate groove width while foraging on four species of conifers in the West. The adaptive peaks correspond to the following conifers from left to right: Douglas-fir, Rocky Mountain lodgepole pine, Rocky Mountain ponderosa pine, and South Hills lodgepole pine. From Benkman (2003).

when lodgepole pine had shifted considerably upwards in elevation (Smith and Benkman 2007). It is difficult to envision ponderosa pine crossbills evolving much before 7,000 years ago or South Hills crossbills evolving before 5,000 years ago. This represents extremely rapid speciation.

How has reproductive isolation evolved so quickly between call types adapting to alternative conifers? We have found that natural selection for foraging on alternative conifers is strongly divergent, favoring the evolution of different bill structures, which is the ultimate reason there are so many call types (Benkman 1993, 2003; see Fig. 3). But how does reproductive isolation evolve so quickly? Strongly divergent ecological selection should favor assortative mating because hybrids will tend to be intermediate in size and less likely to survive (Benkman 1993, 2003, Snowberg and Benkman 2007). As expected, female crossbills in captivity strongly prefer to associate with male crossbills of their own call type (Snowberg and Benkman 2007). Perhaps even more important, especially during the early stages in the evolution of a call type, is strong selection favoring assortative flocking by similar morphologies.

Years ago, when I used to spend much time in the field measuring feeding rates of crossbills, I noticed that flocks of crossbills appear to assess tree quality as a group. When crossbills land in a tree and begin foraging, they are generally quiet. However, sometimes one or two crossbills may begin to call, as if saying, "I'm doing poorly, how are you doing?" If the rest of the flock remains quiet and continues foraging, then the callers cease calling and forage. Maybe they had found a poor cone or branch and the others were more successful. In other cases, if one or two crossbills begin calling and others join in, creating a crescendo, they all fly off. In some cases in which I had already measured feeding rates, it was obvious that crossbills flew off because there were few seeds in the cones. Since then, we have shown experimentally that crossbills can more rapidly assess tree quality by watching foraging flock mates (Smith et al. 1999). Such group assessment only works well if flock members have similar feeding abilities (Smith et al. 1999). A small-billed crossbill in many cases would not benefit from observing a large-billed crossbill. This should favor assortative flocking by like morphologies. We believe that distinct "call types" evolved because they allowed crossbills to readily flock with crossbills having like morphologies, since it would be easier for them to recognize similar crossbills by call type than by subtle differences in palate structure and bill size and shape. Because crossbills flock year-round and chose mates within flocks, assortative flocking may have been key to the rapid radiation of crossbills.

Conclusion

I suspect that we will be studying crossbills for years to come. The other day one of my graduate students recommended that I read a paper by Dr. William L. Brown, Jr. (1922-1997), the great naturalist and ant biologist who was a professor at first Harvard and then Cornell University. Brown wrote in *The Quarterly Review of Biology* in 1957: "Were I an ornithologist, I think that the finches of the genus *Loxia* would take up most of my research time. No group of birds seems to offer more tantalizing problems in that area of biology where systematics, ecology, zoogeography, population dynamics, and ethology overlap." I began studying crossbills 25 years ago. I just wish I could have shown this quote to my dissertation committee members when I embarked on my research. Maybe then their jaws would not have dropped so far when I first mentioned studying crossbills.

ACKNOWLEDGMENTS

I thank Nathan Pieplow for inviting me to write this paper. His comments and those made by Ted Floyd have improved its presentation. Our research on crossbills has been generously funded by the National Science Foundation (most recently DEB-0455705 and DEB-0502944).

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Craig W. Benkman, Department of Zoology and Physiology, Dept. 3166, University of Wyoming, Laramie, WY 82071

Colorado's First Record of Tropical Parula

David Leatherman and Joe Mammoser

Abstract

This account details the first occurrence of Tropical Parula (*Parula pitiayumi*) in Colorado between 18 June and 4 July 2005. The bird was observed by hundreds of birders during this period at Grandview Cemetery in Fort Collins, some 600 miles north of the northernmost location previously documented for this species.

Dave Leatherman's Account

Fort Collins, Larimer County, Colorado sits along the Front Range of the Rocky Mountains 60 miles north of Denver at an elevation of 4,998 feet. Grandview Cemetery, a 45-acre tract at the west terminus of Mountain Avenue, dates back to 1887 and contains the oldest, best collection of planted trees in town. Over 175 species of birds have been observed here, and it is one of the locales regularly inventoried by me (Leatherman) during 808 visits since 1975. Late migrants have occurred here in the past in early June, and it was with them in mind that my visit of 18 June 2005 began about 7:30 a.m.. My prior visit, highlighted only by a late migrant Black-headed Grosbeak, had been on 12 June.

Except for three Red Crossbills* visiting Plains Cottonwoods in addition to their normal host (at this location) of Colorado Blue Spruce, nothing unusual was noted during the visit's first half hour. Then, as I approached the center of the cemetery (south of Section S), the characteristic song of a parula rang out. Having just seen and heard a male Northern Parula on 2 June at the Community College Woods in Lamar, this song was still fresh in my memory. My first poor view of the singer came from an Ohio Buckeye along the west edge of Section 8 and the warbler soon moved west into Honeylocusts and a Green Ash in Section 1, where I got good looks. At this point I will admit to the bird looking "odd" for its lack of an eye-ring, dark lores, lack of dark orange/brown on the chest, and extensive yellow along the edges of the throat, but my brain would not allow "Tropical Parula" to escape its deep recesses to a more conscious chamber.

I watched the bird for perhaps a total of 90 minutes, trying to

* *In keeping with this issue's focus on crossbill types, the editor notes that the Red Crossbills in Grandview Cemetery in late June 2005 were Type 2; their flight calls can be heard in the background of his Tropical Parula recordings*



Tropical Parula, Ft. Collins, Larimer County, June 23, 2005. Photo by Loch Kilpatrick

figure out the age of this strange-looking male, and then finished the circuit. A total of 22 species was recorded, with the above two species, plus Pine Siskins and Red-breasted Nuthatches, being noteworthy.

Not having a portable phone, I then walked over to a pay booth northwest of the cemetery to call in the “Northern” Parula to Rachel Hopper for relay to the COBirds listserv. Rachel did not answer directly but was provided a voicemail. This done, I felt duly relieved of my clan’s unwritten obligation to report a rare bird.

On 19 June I returned to Grandview Cemetery shortly after noon to see if by chance the parula was still present. It was nearly 90 degrees Fahrenheit, and in about 20 minutes of listening I heard the bird sing twice, about 4 minutes apart, from large cottonwoods just inside the golf course along the cemetery’s south edge. Having detected the bird two days in a row at nearly the same location (and thus considering it “gettable”), when friend Joe Mammoser called that evening, I made sure he knew about this probable “year bird.”

When I arrived home from work on 20 June, a phone message from Joe requested me to call him immediately about the bird. We

talked, and Joe bravely proposed that the bird, seen by him on the 20th, just might be a Tropical Parula. I met Joe and his brother Steve at the cemetery at 6:45 p.m. and we searched in vain. Rachel was flying in from Washington that night; thus, through absolutely no fault of hers, my taped message of 18 June about the occurrence of any species of parula in Fort Collins never made it onto COBirds.

At 5:45 a.m. on 21 June I arrived at the cemetery and immediately heard the bird singing from a Honeylocust in the northwest corner of Section 8. My friend Dave Ely from Broomfield, whom I had alerted the night before, soon showed up and we both viewed the bird at length through my scope as it sang and foraged. There was no doubt as to the bird's identity—it was a Tropical Parula! Joe and Steve soon showed up. With good views, Joe eliminated any doubts he might have had. Steve heard the bird. Dave called Rachel, who was en route, and asked that she put the bird on the Denver Field Ornithologists' Rare Bird Alert and COBirds. Rachel then showed up, followed minutes later by many birders from near and far with access to the various hotlines. And, of course, the bird did not cooperate. Just prior to Rachel's arrival, the bird had flown directly north from its "territory" in Section 8, apparently into Section B or beyond. Despite the cemetery's being combed by several dozen birders on the 21st, the bird was not seen or heard again that day.

On 22 June, I showed up at the cemetery at 6:15 a.m.. Many birders were already there, hoping for a pattern of behavior similar to that of the day before. No bird. It was a generally depressed scene, and instead of being elated at being part of a first state record, I felt bad for the others and sensed some negative vibes flowing my direction. I dejectedly left the cemetery at 8:15 a.m. and attempted to raise my spirits by showing an Eastern Meadowlark and Flammulated Owl to one of the skunked searchers, my friend Georgia Doyle. Imagine species as rare and inspiring in northern Colorado as these two being relegated to "consolation prize" status!

At 1:30 p.m. we returned to the cemetery "just to see who the last diehard searcher would be." There we saw Steve Messick of Greeley peering through his digiscoping gear. He waved us over and happily showed us the images he had obtained earlier that morning of the Tropical Parula. It had reappeared! Many had seen it. And, as if to underscore the improved situation, the bird began singing its alternate song right overhead.

At about 9:30 a.m., birders Gary Matthews and Maggie Boswell had been driving around the perimeter of the cemetery one last time, after most of the others had given up, when they heard the bird in the large cottonwoods on the south edge of the cemetery. Via Rachel,



Tropical Parula, Ft. Collins, Larimer County, June 22, 2005. Photo by Rachel Hopper

word of the bird's reappearance was broadcast, and several birders with sufficient gas in their tanks and remaining credits in their employer and spousal accounts returned to see the bird yet on the 22nd.

Over the next 13 days, particularly on the 23rd, the bird was seen or heard by literally hundreds of birders, but certainly not every day by every birder who sought it. It seemed to go silent and undetectable for one or two days at a time, specifically 29-30 June and 2-3 July. Whether it was actually present in the cemetery or elsewhere during these times will forever be a mystery. I speculate that it was in the cemetery, but as its enthusiasm or energy for breeding waned, it sang less often and was thus virtually invisible. I saw the bird on 4 July and spent over two hours carefully observing it; I believe this to be the last time anyone witnessed the bird. Following a scheduled trip out of state, I checked the cemetery on 12 and 30 July and 1 August and did not detect the bird.

Joe Mammoser's Account

It was Sunday, June 19th, 2005, when I called Dave Leatherman to hear how he was doing and what birds he had been seeing. He indicated that he had seen and heard a singing parula in Grandview Cemetery on both Saturday the 18th and Sunday the 19th. I had not seen a parula yet for the year in Larimer County, so I thought I would check the bird out.

I often make short excursions during my lunch period to bird local spots

reachable within 10-15 minutes. On Monday, I traveled to Grandview for the Parula. Dave indicated the bird had been singing the day before from the upper parts of tall cottonwoods along the golf course in the area of an Austrian Pine group. I spent 15-20 minutes checking out the cottonwoods and, working east, other trees along the golf course. I did not see or hear anything. As I got back to the original spot by the cottonwoods, I heard a somewhat faint, rising, buzzy song coming from further into the cemetery. I tracked this call to a 20-25 foot Honeylocust at the southern end of Section S. I was standing 30 feet away. I knew the song was coming from this tree, but I couldn't see anything.

I stood there for 5 minutes, hearing the song, and not seeing any movement. Then I thought, "There he is. I can see the greenish patch on the back. This must be the Northern Parula. I'll wait for it to come out from behind the clump. There's his head—but wait—where are the eye crescents? This bird's face is all dark. Does he have a pronounced breast band? No, he doesn't. His breast has a deeper orange sunburst color in the center and more yellow extending down to the legs. This can't be a Tropical Parula. My God, this is Colorado!"

I watched the bird sing for about 3-4 minutes in that little opening in the locust tree. I then had to get back to work. All the way back, I was tingling with excitement. When I got to the office I called Dave right away, but he wasn't in so I left a message for him to call me as soon as possible. When Dave did call me later that afternoon, I asked, "Dave, did you get a good look at that parula?"

Dave responded, "Yes, it looked quite dark for a Northern."

"Dave, it didn't have any eye crescents and no dark belly band."

"Are you thinking that it's a Tropical?"

"If I was in southern Texas right now, I would not hesitate for a second to call it a Tropical, and you need to get back and check it out again."

"Are there any plumage stages of a Northern that do not have the eye crescents?"

I had also called my brother Steve, who had a chance to get there soon after. He heard the bird singing in the east-central area of Section 8, but could not see it. It was staying in the tops of tall elms. Eventually the bird went quiet and he never got a look at it. Dave made it to the cemetery a little after I had talked with him. He saw Steve, but did not find the bird that afternoon. After calling Dave on Monday, I also called David Ely and Rachel Hopper. Early Tuesday morning the 21st, Dave Leatherman and David Ely were able to get

to the cemetery at around 6:00 a.m.. They heard and saw the bird towards the golf course border and watched it for 30-40 minutes. After that, it went silent and they could not find it again. Just at that time, or shortly after, the first contingent of birders showed up and started to search for the bird with no success. I stopped by the cemetery before work and chatted with Dave and David, as well as Rachel and Norm Erthal. They said the bird had been seen and heard early but not since.

Wednesday morning I went back to the cemetery before work. As of my visit, the bird had not been recorded. After a few minutes, I had to get to work. At 9:30 a.m. I got a phone call from Rachel that the bird had been refound. I called my brother, who quickly went back to the cemetery and found the group of birders who had already located the bird. I went to the cemetery over my lunch period and reveled in the excitement of the group that was watching and listening to the parula.

Over the next week following the Wednesday sighting with the group, I made seven trips to the cemetery. I saw and heard the bird on five of those visits. On one trip, I helped Bob Spencer and others locate it. On another trip, I followed the bird to a spruce north of the main entrance, where it foraged silently. If I had not seen it fly there, I would never have known it was there. One birder stated that on occasion the bird traveled as far north as within 100 feet south of LaPorte Avenue, which is the northern boundary of the cemetery. This would put it 100-150 yards north of the usual territory it tended to sing in.

I heard at one point that as many as 200 people had a chance to see this special visitor to Grandview Cemetery in Fort Collins. What a spectacular bird!

NOTES ON THE BIRD

Physical Description

The size and shape of the bird were typical of a warbler, and suggestive of the genus *Vermivora*. Its long, pointed bill and rather short tail gave it a body style not unlike that of a Nashville or Tennessee. It was overall steel bluish above, with bold white wingbars of about equal size (in most views, but not all, the upper one appeared more prominent). The lower half of the body was bright yellow from (and including) the lower mandible to mid-belly (right at the level of the lower wingbar), and the rear portion of the belly and undertail coverts were bright white. The tail viewed from below showed dark gray outerparts to both the basal and terminal portions of the visible outer rectrices, with the rest of these feathers being white (giving the ap-

pearance of large white “tail spots”). The eye was black and of average size. The back was mostly a patch of olive-green with a tinge of light brown. The lores were dark brownish (not black in full sunlight), giving the bird a bit of a masked appearance. The blue cap extended well below the eye and was bordered abruptly by a bright golden yellow malar area. This yellow malar contributed to the bird’s appearing to have a “widely yellow” throat (i.e., the yellow color was not confined to just the “chin” area but extended up onto the side of the face). The bird had absolutely no eye-ring contrasting with the medium blue of the side of the head. The upper mandible was dark gray, bordering on black. The lower throat/upper chest was a warm light orange, making it stand out as an orange patch against the surrounding yellow, but it did not have any hint of dark “edge” along the upper part as would be expected in Northern Parula. The legs were pale and clearly yellowish along the lower tarsi and toes. The nape, back outside the greenish patch, wings apart from the wingbars, coverts, and upperside of the tail were the same steel blue as the crown.

Comparison With Northern Parula

These two species are quite similar in size, shape, and song. The primary distinguishing marks are: 1) a white or gray eye-ring in Northern in all plumages; 2) a greater extent of yellow on the underparts of Tropical, reaching to or even slightly beyond the level of the lower wingbar, whereas Northern is usually yellow only to the lower breast or barely onto the upper belly (i.e., to the level of the upper wingbar or the area between the two wingbars); 3) a yellow malar area on Tropical vs. blue to blue-gray on Northern; and 4) a dark border, in some cases black, to the orange patch on the breast of Northern, where Tropical shows light orange (though some female and immature Northerns show uniformly yellow breast patches). The bird showed no characteristics suggesting hybridization with Northern Parula (T. Gallucci, pers. comm.).

Behavior

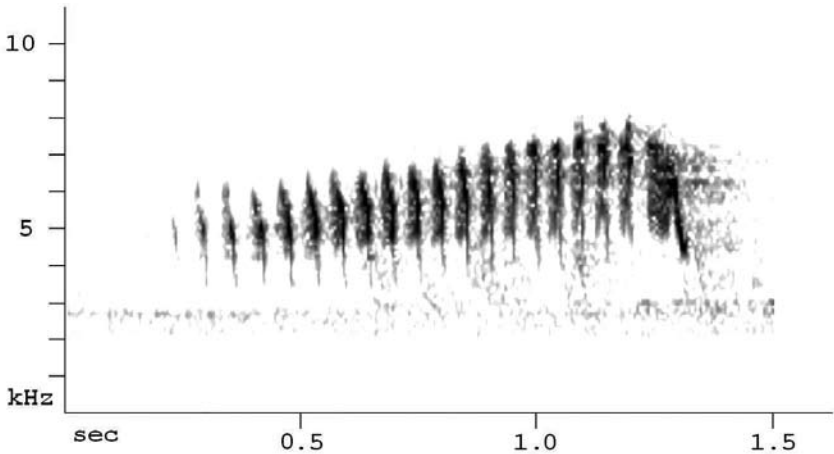
In all respects, this male seemed territorial. When singing, it usually did so with vigor (at full volume, from different locations, with a quick pace) and on most days tirelessly for hours on end. Despite its propensity for song, the bird was often frustratingly difficult to locate among the leaves. Birders heard it sing from as early as first light, shortly after 5:30 a.m., to at least as late as 3:30 p.m.. It appeared most frequently in the same area of the cemetery (northwest corner of Section 8), even to the point of having a favorite Honeylocust tree just west of the “Thomas Quinn” headstone. It aggressively chased other birds, particularly Black-capped Chickadees, Red-breasted Nuthatches, House Finches, and Pine Siskins. On 4 July it joined House Finch-

es and Black-capped Chickadees in a Colorado Blue Spruce scolding a Fox Squirrel that was apparently near a finch nest with young.

Published accounts for Tropical Parula indicate that it uses a very broad range of vegetative types within its entire range through all seasons, including riparian forests dominated by elm, ash, and hackberry; oak forest; arid thorn forest; tropical evergreen forest; open broad-leaf forest; cloud forest; pine-oak associations; second growth; occasional scrub; tall, wet highland forest; and rain forest (Regelski and Moldenhauer 1997). At Grandview Cemetery, the parula usually sang and foraged high in the canopies of various species of deciduous trees and shrubs, including (in descending order of frequency) Honeylocust, Silver Maple, American Elm, Ohio Buckeye, Green Ash, American Linden, and Mapleleaf Viburnum. Also, Tony Leukering, Nathan Pieplow, Joe Mammoser, and I on separate occasions observed the bird within large Colorado Blue Spruces. Since woody leguminous plants predominate within the northern part of its normal range, the choice of Honeylocust (*Gleditsia triacanthos*) as its favorite tree at Grandview Cemetery is not surprising. It was observed on 21 June in a Honeylocust procuring and eating a large, green, hairless caterpillar, most likely a Green Fruitworm (*Orthosia hibisci*). At most times in Honeylocust, its quick “nitpicking” feeding stabs were consistent with obtaining two insects common in this species of tree, Honeylocust Leafhopper (*Macropsis fumipennis*) and Honeylocust Plant Bug (*Diaphnocoris chlorionis*), although confirmation of their consumption was not obtained. On 4 July it spent at least 5 minutes about 10 yards from me within 8 feet of the ground feeding on aphids in a Mapleleaf Viburnum (a visually undocumented episode highly influential in my decision to subsequently purchase a 400mm telephoto lens with stabilizer!). On 4 July the bird was observed preening quietly on one leg and apparently sleeping in this position for about 15 minutes deep within the interior crown of a Honeylocust.

Vocalizations

By far the bird's most common utterance was a lusty rendition of the primary song. This song was very similar to that of the Northern Parula and consisted of a quick, wavering ascension of the scale, the last portion going “over the top” with a brief one-note drop in pitch (“z-z-z-z-z-z-zee-up!”). During early daylight hours this was normally repeated about every 10 seconds, with Leukering timing it at exactly every 8 seconds in mid-morning on 22 June. Later in the day, when temperatures were hotter, the tendency to sing and the duration of



Sonogram of the song of the Fort Collins Tropical Parula, recorded 24 June 2005 by Nathan Pieplow

time between songs lessened and increased, respectively. I heard it give its secondary song once at 1:30 p.m. on the 22nd, and Messick and I heard the bird give its secondary song briefly on 22 June. This song was difficult to describe in words; see Dunn and Garrett (1997), p. 205. On 4 July, this was the most common form of song I heard. (Interestingly, the “late” Northern Parula seen earlier in Lamar on 2 June was singing primary and secondary songs interchangeably and about equally often.) The call note of the Tropical, a sharp “chip” similar to Yellow Warbler, was not given often, and was only heard by me twice (both times on 4 July during the harassment of the Fox Squirrel).

Known Distribution of Tropical Parula

According to Dunn and Garrett (1997), Tropical Parula breeds from northern Argentina north to southernmost Texas, where it nests mostly on the King Ranch near Kingsville and sporadically in the lower Rio Grande Valley. They list it as very rare or casual north along the coast to southern Louisiana and north inland to the hill country of south-central Texas. There is a fall record from Mississippi (Jackson 1991). A breeding population exists in the Sierra del Carmen, Coahuila, just south of Big Bend National Park in Mexico (T. Gallucci pers. comm.). This species has attempted nesting in the Davis Mountains of Texas (Jeff Davis Co.) in at least 2001-2002 (Lockwood et al. 2002). In addition, records accumulated since 2002 indicate a summer range expansion has occurred along the Pecos River (Pecos Co.) and in the Devil’s River State Natural Area (Val Verde Co.) area of Texas. Multiple singing males here are indicative of lo-

cal breeding (Lockwood 2004), although this is unconfirmed through 2006. Records of birds in late spring-early summer (including a pair in early June 2005) at Hamilton Pool (Travis Co.) may indicate local breeding there (Lockwood et al. 2006).

Subspecific Identity of the Colorado Bird

Tropical Parula has 14 subspecies throughout its range, of which two are thought to have occurred in the U.S. The South Texas subspecies, and the one presumed to account for all records east of Arizona including the Fort Collins bird, is *P. p. nigrilora*. The Madera Canyon birds were thought to be *P. p. pulchra*, which has a wider white lower wingbar, particularly on the greater coverts (which makes the lower bar more prominent). Besides having wingbars of equal prominence, the Fort Collins bird showed the bright chest color and dark mask typical of *nigrilora*, and the primary song was definitely characteristic of Northern Mexican/Texan birds, being “basically indistinguishable” from that of western populations of Northern Parula (T. Gallucci, pers. comm.).

Table 1. Extralimital Records of Tropical Parula

14 July – 13 September 1984	a male (and briefly a female)	Madera Canyon, AZ
30 April – 1 May 1995		Rio Grande Village, Big Bend National Park, TX
18 May 2004	male	Lubbock, TX
21-22 Aug 2004		San Antonio, TX
30 Apr 2005		Gila River Bird Area, Grant Co., NM
11 May – “early June 2005”		Hamilton Pool, Travis Co., TX
summer 2006		southeast Arizona

Summary

Tropical Parula is not a species most people predicted to appear in Colorado. But given the apparent recent trend throughout the U.S. of northward movement by southern species (e.g., the two White-eared Hummingbirds that occurred in southwestern Colorado roughly coincident with this Tropical Parula record) and the spattering of relatively recent extralimital records of Tropical Parula, perhaps this individual was not totally out of pattern. Despite considerable attempts to detect it, this bird apparently did not reappear at Grandview Cemetery the following summer (2006). As evidenced by the account of this species in the Birds of North America series, little is known of this species’ behavior and migration patterns. Perhaps documentation of this incident will fill in a very small number of the blanks. Equally importantly, it should keep our minds open to the possibilities as we bird.

ACKNOWLEDGMENTS

The authors would like to thank Mark Lockwood of the Texas Bird Records Committee, Steve Dinsmore of Iowa State University, and Larry Semo of the Colorado Bird Records Committee.

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David Leatherman, 612 Stover Street #7, Fort Collins, CO 80524, 970-416-0193, daleatherman@msn.com

Joe Mammoser, 312 Dunne Drive, Fort Collins, CO 80525, 970-207-0172

BREEDING BIRD ATLAS

Introducing Atlas II

Tony Leukering

Dateline: Denver, CO, 1 January 2007

The Colorado Bird Atlas Partnership (CBAP) reports that it has initiated the Second Colorado Breeding Bird Atlas, a project designed to determine the distribution of all of the state's breeding bird species on a relatively small scale. This effort follows 20 years after the initiation of the first such effort, a project that culminated in the acclaimed publication Colorado Breeding Bird Atlas, edited by Hugh Kingery. The data from the First Colorado Breeding Bird Atlas have been used extensively by land and wildlife managers, wildlife consultants, and others interested in bird distribu-

tion and bird conservation. Many eagerly await the results of this second effort.

**Dateline: Washington, DC,
28 April 2007**

The Surgeon General reports that *atlasing*—the act of canvassing blocks of landscape to determine the species of birds breeding there—can be highly addictive and time-consuming, and now requests warning labels be placed on all books used in such endeavors, including bird field guides, nest-identification guides, and even books on trees and shrubs. Signs of addiction can include such behavior as the shouting of senseless phrases like “Western Tanager, CF,” Cassin’s Sparrow, T,” and “Great Horned Owl, NY” when outdoors. Addiction may also lead to listlessness after a period of 5-7 years when local demand for the activity appears to end; correspondingly, addicts may travel to other geopolitical entities to obtain a fix. While the activity is not illegal, legislation is being considered to outlaw it in hopes of reining in the alarming rise in number of atlasing-addiction cases. The American Civil Liberties Union vows to fight any such legislation.

Introduction

Yes, the Second Colorado Breeding Bird Atlas—Atlas II—started on 1 January 2007, 20 years to the day after the beginning of the first atlas. Its aim is to produce fine-scale distribution maps of all of the state’s breeding bird species. However, because it will be the second such effort, it will also allow us to see, quite graphically, the changes that have occurred in bird distribution in Colorado over the past 20 years. For many species, the new maps will show very little change from those produced in the first effort. But the maps of quite a few other species will indicate significant change, positive or negative. In fact, the project has already confirmed a species as breeding in the state that was not present in Colorado during the course of the first atlas: Eurasian Collared-Dove (as expected).

The CBAP has contracted with the Rocky Mountain Bird Observatory to conduct Atlas II, and I, foolishly or not, have agreed to be the project coordinator. As Colorado is a big state with relatively few birders, the Atlas II project will require the assistance and support of

COLORADO



ATLAS • II

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Table 1. *Atlas II Regional Coordinators*

Region	DeLorme map pages	Coordinator	E-mail address
1	12,13,14,15,25	Forrest Luke	forrest@trappermine.com
2	16,26	Allison Hilf	AHilf@aol.com
3	22,23,24,34	Kim Potter	kmpotter@fs.fed.us
4	35,36,45,46	Tom McConnell	immac@rof.net
5	32,33,42,43,44,54,55	John Toolen	jtoolen@bresnan.net
6	56,57	Cheryl Day	cday@paonia.com
7	64,65,66	Coen Dexter	coenbrenda@yahoo.com
8	58,59,67,68,69	Lori Brummer	lbrummer@frii.com
9	74,75,84,85	available	
10	76,77,86,87,88	Susan Allerton	sallerton@earthlink.net
11	17,18,27,28	Jim Liewer	jcrlie@bresnan.net
12	37,38	Doug Faulkner	pomjaeger@aol.com
13	47,48,60,61,70	Sherrie York	sy@sherrieyork.com
14	78,79,80,89,90	available	
15	19,20,21,94	Connie Kogler	aslansown@mac.com
16	29,30,31,39,40	Bill Kaempfer	kaempfer@stripe.colorado.edu
17	41,49,50,51,96	Glenn Walbek	gwalbek@comcast.net
18	62,63	Brad Steger	at0907@yahoo.com
19	71,72,73	Mark Yaeger	radeaux@hotmail.com
20	81,82,83,91	Tony Leukering	tony.leukering@rmbo.org
21	92,93	Tim Crisler	tcrisler@excite.com
22	95,102	Steve Larson	stevnelarson@comcast.net
23	97	available	
24	98,100	Mark Peterson	mpeterson33@yahoo.com
25	99	Duane Nelson	leastern@centurytel.net
26	101,103	available	

all of Colorado's field ornithologists, amateur and professional alike. I here hope to instill in you not only the importance of this project, but, more importantly, the sheer fun involved in the endeavor. If I can also convince you to financially support the project, all the better!

Atlas II Design

Most breeding bird atlases are scheduled to take five years to complete, though many have run overtime; the first Colorado atlas took eight years. Therefore, we have a tentative finish date of 31 December 2011, but do not be surprised if CBAP announces an extension sometime down the road.

I have set up a system of regional coordinators to assist in the

administration of the project (that is, to reduce my work load!) and Table 1 lists the regions (defined by DeLorme® atlas pages), their respective coordinators, and the coordinators' email addresses. This table also points out the four regions for which I do not have coordinators, in hopes that some wonderful people will step up and volunteer to fill those positions. Coordinators are not required to live in their respective regions, but they need some reasonable knowledge of the region's avifauna and at least some organizational skills. In addition, internet access is required.

The CBAP has decided to use the same system for atlasing that was used in the first Breeding Bird Atlas. Thus, the sampling unit is the 7.5-minute topographic quadrangle map ('quad') as published by the U.S. Geological Survey. We have further subdivided these maps into sixths (dividing the maps in half longitudinally and in thirds latitudinally) and chosen one block—the southeast block—as the focus of field efforts for each quad. Because access to some of these 'priority blocks' was not obtained (or obtainable) in the first atlas, the official priority block for some quads was switched to one of the alternates (central-east or southwest), and those switches will be maintained in the current effort.

Most of the details of management of the blocks and quads will be handled by a whiz-bang website constructed by the Cornell Laboratory of Ornithology which will, hopefully, be up and running by the time this issue of *Colorado Birds* arrives in your mailbox. However, regional coordinators and I can and will assist those without internet access to submit their data.

Breeding bird atlasing is designed to utilize bird behavior to answer two questions important to atlasers: 1) what part of the breeding cycle a particular individual is in and 2) how certain we can be that the individual is breeding locally. Therefore, every behavior, suite of behaviors, or other clue that a bird might give as to its local breeding status is placed in a hierarchical system, with higher-rated behaviors indicating more definitely that a certain individual (thus, species) is breeding locally. These 20 'behaviors' are divided into three broad categories of increasing certainty of local breeding: possible, probable, and confirmed. The overall idea of this system is to encourage field workers to obtain the highest-rated clue for each species in each block, with a strong preference for scoring 'confirmed' behaviors for at least half of the species recorded in any individual block. "Possible" and "probable" breeding behaviors should only be recorded if

Atlasing makes every species new again, every time one visits a different block.

the species is present in appropriate breeding habitat and in the appropriate season.

Volunteer Participation

Birders can participate in the Atlas II project by agreeing to take on the necessary survey efforts of a particular quad or two (or 30). To sign up, simply visit the Atlas II website (<http://www.rmbo.org/specialproj/atlas2.html>), click on the link to the block-management utility, and follow the instructions there. You may also contact the regional coordinator appropriate to the location(s) at which you wish to atlas for their assistance in getting yourself assigned the quad(s) of your choice.

CBAP estimates that about 20 hours of field effort will be required to ‘complete’ the average priority block on a quad. Of course, not all blocks are created equal and some will require less effort, some more.

Soon, “Wow, a nest!” becomes reason for dancing in the streets (or grassland or forest).

Details can be found in the *Field Worker’s Handbook*, a publication of CBAP that delineates many aspects of a volunteer’s duties. One can obtain the vital document from one of three sources:

1) a regional coordinator; 2) the project coordinator (me); or 3) in PDF form from the Atlas II website (see above). Another vital document, available from the same sources, is the *Manual on the Use of Breeding Codes*, which goes into detail about which codes are useful for each species that breeds in Colorado. This product also delineates what the “appropriate season” is for each Colorado breeding species by providing a date span during which the use of “possible” and “probable” codes is permitted. That is, it allows volunteers to understand that just because a White-crowned Sparrow may be singing on 16 January does not necessarily mean that it is breeding locally. In fact, it probably is not—particularly as the White-crowned Sparrows that winter in the state are almost all of the subspecies *gambeli*, which breeds in Canada.

Because atlasing requires a bit more in-depth knowledge about bird behavior than your average birder carries around in his or her head, atlasing can be a great way to learn more about our favorite critters. Even those birders that might intimidate you with their knowledge and identification skill (folks such as Coen Dexter, Beth Dillon, or Duane Nelson) have learned buckets by atlasing. Also, as atlasers around the globe have found, this activity can be quite addictive (as is most learning). *Atlasing is for everyone*, not just the super-serious. Atlasing will certainly teach you things that you might not otherwise have learned from birding—from the specific set of vegetation fea-

tures that a particular species selects as breeding habitat to the time of year that the species breeds. And, yes, atlasing is really just birding with a purpose. A particular purpose.

Atlasing makes every species new again, every time one visits a different block. Every House Finch and American Robin is important if it's the first found in a block. Thereafter, every American Robin or House Finch that exhibits a higher-rated behavior than already recorded for the block is important. Soon, "Wow, a nest!" becomes reason for dancing in the streets (or grassland or forest). "Ooh, whose nest is that?" becomes reason enough for remaining hidden and motionless with bated breath until the nest owner returns to claim a confirmed code for the species in that block. *I warn you, atlasing is addictive!*

Opportunities for Training

Because atlasing is a skill that can be honed, and because learning in a vacuum is difficult for most, there will be ample opportunity for the atlasing beginner to learn from those more experienced. The recent CFO convention hosted two atlasing field trips, and future such conventions will certainly do likewise. On these trips, experienced atlasers led less-experienced volunteers through the steps and processes of atlasing. In addition, various bird clubs and Audubon chapters have hosted and will continue to host atlas training field trips. Regional coordinators may be willing to have you tag along with them while atlasing so that you might take up some of their knowledge of the task. Finally, various regional coordinators and I will be putting together "Atlas Rendezvous" field trips. These will be weekend get-togethers aimed at getting a bunch of volunteers into poorly-atlased regions of the state in order to generate data in a number of blocks/quads. I hope that the Atlas II website can serve as a clearinghouse for announcements of the various atlasing field trips; thus, if you organize such trips, please let me know of them. Anyone interested in receiving atlasing training should check the website with some regularity.

Some Final Words

Remember: although a breeding bird atlas serves science and bird conservation, atlasing is supposed to be fun. Get your birding friends—or, better yet, non-birders—to join you in atlasing your block(s). Take on a quad near your house, but consider taking on another that requires you to visit a part of the state that you might not have gotten to otherwise, which will enable you to learn more about Colorado. If you're an experienced atlaser, agree to run an atlasing-training field trip. If you have an interest and a position is still vacant, take on the tasks of a regional coordinator. Above all, help us get the

Atlas II project completed and completed on time. Who cares if the endeavor is addictive? How can something that gets you outside and having fun be bad for you?

Tony Leukering, Rocky Mountain Bird Observatory, 14500 Lark Bunting Lane, Brighton, CO 80603



Bobolink, by Joe Rigli

The Proposed Piñon Canyon Expansion: Possible impacts on birds and birding

SeEtta Moss

When I was asked if I would be interested in writing an article on the proposed Piñon Canyon expansion for *Colorado Birds*, I thought, “boy, that would be fraught with peril.” It was apparent that many people already had opinions about it and these were often associated with strong emotions. However, I thought I might be in a position to clarify some issues as they relate to birds and birding.

In 2004 I served on a Wildlife Monitoring Program Expert Panel for Fort Carson and Piñon Canyon Maneuver Site that provided me with a considerable amount of factual information on species, habitats, and monitoring on those sites. In 2005 I worked as a field technician conducting grassland bird surveys, of which a number were in the “area of interest” that was preliminarily identified by the Army as the location of a possible expansion of Piñon Canyon. And I attended several of the public meetings on the proposed expansion as well as on the environmental assessment of the impact of increased military training on the current footprint of Piñon Canyon.

In order to write this article, since I had only seen a small part of Piñon Canyon previously, I arranged a tour with the onsite biologist, Mead Klavetter. At the end of May we drove around some of the 200,000+ acres of the current Piñon Canyon Maneuver Site. During this 3-hour tour we drove about 70 miles through the central and northern sections of the maneuver site, stopping several times to walk around and take photos. Though some think that Piñon Canyon should look like a moonscape, all tracked up and trashed by military maneuvers, it actually has some of the healthiest short-grass prairie and pinyon-juniper habitat I have seen in Colorado.

The prairie hosted large expanses of native wildflowers including scarlet globe mallow (*Sphaeralcea coccinea*), Dakota vervain (*Verbena bipinnatifida*), purple ground cherry/Chinese lantern (*Quincula lobata*), and at least one penstemon species. There were large expanses of needle-and-thread grass (*Hesperostipa comata*), an elegant bunchgrass that is “dominant in mesic shortgrass prairies” (Wasowski 2001). Among the several dozen native grasses found on Piñon Canyon, I also identified Indian ricegrass (*Achnatherum hymenoides*), purple



Piñon Canyon, Las Animas County. Photo by SeEtta Moss

three-awn (*Aristida purpurea*), and grama (*Bouteloua* spp.).

A good portion of the native grass has been planted since the Army acquired the current acreage. Though much of this area had been grazed by cattle prior to its acquisition by the Army, grazing is not allowed on Piñon Canyon. There is a management plan that provides for disturbance, including prescribed burns. There

is an active program to revegetate with native species any areas that may be damaged by training regimes, including a policy to rest and rotate those areas over which tracked vehicles (e.g., tanks) have been driven. There are also published scientific studies on “allowable use estimates” to maintain soil structure and vegetative cover under this intensive use. There has been no training with tracked vehicles since the Iraq War began, and many areas on which this type of training had been conducted are now grassy fields on which such damage was not evident during my tour. Current training with live fire involves rifles, handguns, and machine guns using up to 50-caliber bullets (the largest ammunition ever fired at Piñon Canyon).

There are few internal fences on Piñon Canyon relative to what is seen on the surrounding private ranches and even on the Comanche National Grassland. Though there are engineered roads and a number of two-tracks within Piñon Canyon, again there are considerably fewer than on many ranches in the area. This provides a vast expanse of grasslands and other habitats that have not been fragmented and are available to grassland bird species that avoid structures (since natural selection prior to human settlement favored those species that avoided structures where predators could perch to hunt them).

In addition to shortgrass prairie and pinyon-juniper woodlands, Piñon Canyon hosts sand-sage prairie, some small reservoirs, canyonlands with cliffs, and lowland riparian habitats. As a result of this diversity and the healthy public lands here, the bird checklist is over

240 species. Fort Carson has employed at least two highly skilled birders in its biology section who have surveyed both Fort Carson and Piñon Canyon extensively. Their staff will conduct Breeding Bird Atlas II surveys on 12 quads within or including Piñon Canyon acreage.

Piñon Canyon staff conduct active habitat management for several species of concern, including Mountain Plover, Burrowing Owl, and Ferruginous and Swainson's Hawks, all of which nest there. Lark Bunting, another species of concern identified by the Partners In Flight North American Landbird Conservation Plan (Rich *et al.* 2004), was present in good numbers in prairie areas during my visit, with males engaged in "skylarking" and other breeding-related behaviors.

Bald Eagles are observed in the winter foraging over black-tailed prairie-dog colonies on the maneuver site. There is also a Golden Eagle nest that has been active for many years with a 500-meter buffer zone for protection. Mead Klavetter is building nesting platforms on abandoned windmills and some perching poles for raptors. Both Common and Chihuahuan Ravens nest there, as does Loggerhead Shrike, utilizing some greasewood. Of special interest for birders are the breeding Field Sparrows and Hepatic Tanagers. Apparently there is a remnant stand of ponderosa pine that provides breeding habitat for the tanagers.

Piñon Canyon is accessible to birders when military training is not being conducted. Birders can pay a \$20/calendar year fee to access both Piñon Canyon and Fort Carson. I was told that then all the birder needs to do is to call the biology section at Piñon Canyon about a week ahead of the proposed trip to find out if the site is open to the public. Like the hunters that use Piñon Canyon, birders just check in at headquarters, where they will be given a basic map. Onsite primitive camping is even available for those interested.



Though beyond the purview of this article, *Black-throated Sparrow, Fremont County, April 9, 2007. Photo by Bill Maynard*

it is worth noting that the Army has an active program to preserve thousands of cultural, historic, archaeological and Native American sites, including rock art and family cemeteries. Its staff has monitored populations of swift fox and Texas horned lizard, both of which are listed as species of concern by the Colorado Division of Wildlife.

For those who may be concerned that the Army is conducting all the surveys on the maneuver site, several recent surveys have been conducted on Piñon Canyon by university and other non-profit organizations, including current Burrowing Owl research by a university in Arizona and recent research by the Denver Museum of Nature and Science, Regis University, and Colorado State University. In addition, Fort Carson and Piñon Canyon are part of the Nature Conservancy's Central Shortgrass Prairie Assessment and Partnership Initiative (see Eberly 2007). In conjunction with this, the Colorado



Rufous-crowned Sparrow, Fremont County, February 20, 2007. Photo by Brandon Percival

Natural Heritage Program is conducting an ecological monitoring program assessment for both Piñon Canyon and Fort Carson. Additionally, the Army has cooperative agreements with U.S. Fish & Wildlife Service and the Colorado Division of Wildlife to survey and monitor fish and wildlife species on the maneuver site and develop conservation plans.

So what about the proposed expansion?

At the time of this writing, the Army has just released an official expansion proposal. Personally, I am waiting for more specific information, including the Environmental Impact Statement, before I take a position. However, I do think there are some pros and cons to an expansion of Piñon Canyon that can be identified now.

Though it is not strictly a bird-related issue, I suspect that many birders would have concerns about the human impacts of the possible use of "eminent domain." Some of us personally know some of the ranchers who own land surrounding the current footprint of Piñon Canyon and would not want to see them forced off their lands. Some of us would also have concerns about the potential negative eco-

conomic impacts upon the communities in the area. Several of the private ranches open for birding through the Colorado Birding Trail might be acquired, and this would reduce opportunities for birder access to the lands involved. Additionally, some of the ranchers in this area do a very good job managing the natural resources on their lands, providing good habitat for a variety of bird species. A lot of



Hepatic Tanager, Las Animas County, 2006. Photo by Andrew Spencer

concern has been expressed about the possibility of the Army's acquiring Picketwire Canyon, but that area has been excluded from the latest expansion proposal, as has the entire Comanche National Grassland.

On the other side of this issue, birding is allowed on almost all of the acreage within Piñon Canyon boundaries, while birding access is limited to only a few private ranches in the area surrounding Piñon Canyon. Birds are surveyed and monitored on all acreage within Piñon Canyon boundaries, but only limited surveys and unknown monitoring have been conducted on private ranches in the area. Though some of the ranches in the area are in a healthy state, I have personally seen some ranched areas, including parcels on the Comanche National Grassland, that provide adequate habitat for few native bird species due to a lack of proper rangeland management. There is significantly more native habitat on Piñon Canyon acreage than on surrounding lands managed for livestock production, on which more non-native grass is grown and where pinyon-juniper habitat is often "chained" or burned off in order to provide more grass for livestock, sometimes in areas with insufficient substrate to support grass production. Additionally, those lands managed as a part of Piñon Canyon contain fewer miles of internal fencing than ranchers use to contain livestock, and they are less fragmented by roads and two-tracks than many surrounding ranches.

There is currently a 13,000+ acre farm only a few miles south of Piñon Canyon and inside the revised area of interest that is posted for sale, and the owners have indicated that they might sell it

as small parcels that would clearly fragment the habitat and likely bring “sprawlette” development with increased roads, increased fencing, increases in invasive species, dogs running loose to chase wildlife, and other destructive impacts of exurban sprawl. The Trinidad State Prison is only 16 miles south of Piñon Canyon, which increases the risk for additional residential development in this area, such as has happened around other prisons in the state. And there are at least two ranchette developments within the western section of the revised area of interest that have small parcels for sale. If 35-acre (or 10-acre, 15-acre, etc.) ranchette developments invaded the area near or adjacent to Piñon Canyon, they would reduce the acreage available for military training, since it is impossible to conduct these activities with residences nearby, and they would increase the impacts of military training on the natural resources in the remaining acreage.

The proposed expansion of the Army’s Piñon Canyon is a complex issue. There are definitely serious human-impact issues depending upon how the Army proceeds with this expansion. There is also much at stake for Colorado birds, especially those grassland birds that have experienced serious population reductions as this prairie habitat continues to be lost. The potential impacts on birding opportunities appear less critical. As the Army proceeds with its plans for expansion, the multifaceted issues will become clearer as a more refined proposal for property acquisition is delineated and the Environmental Impact Statement process begins.

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SeEtta Moss, 725 Frankie Lane, Cañon City, CO 81212, SeEttaMoss@hotmail.com

Bullsnake versus Red-tailed Hawk

Ed. Hugh Kingery

On 10 April 2007, on Fort Carson in El Paso County, Steve and Jody Navakuku discovered an adult Red-tailed Hawk in what can only be described as a terribly compromised position: grounded and apparently at the mercy of the Bullsnake (*Pituophis catenifer*) it had presumably attempted to capture and eat. They documented the incident through a remarkable series of photos.

According to Preston and Beane (1993), "it is not uncommon for mammalian prey to bite the toes and legs of hawks (especially juveniles); many Red-tails bear scars of these encounters." They also mention an anecdotal report of a Red-tailed Hawk's having been bitten and killed by a rattlesnake. However, the Fort Carson incident may have been the first of its kind to be photographically documented.

The dramatic photo begs the question: who won the fight? According to the Navakukus, it was a draw. Both animals survived the encounter, but when all was said and done, the snake was apparently in worse shape than the hawk.

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Red-tailed Hawk and Bullsnake, Ft. Carson, El Paso County, April 10, 2007. Photo by Jody and Steve Navakuku

Food Sources of Late-migrating Insectivores in Pueblo City Park

David Leatherman

Ed. Hugh Kingery

[Editor's Note: In Pueblo's City Park, a flock of small birds persisted during late November 2006. Its main members consisted of chickadees, nuthatches, and warblers. The group consisted of 25-30 Yellow-rumped Warblers, both Black-capped and Mountain Chickadees, 10 Ruby-crowned Kinglets, 5 Red-breasted Nuthatches, and, on various days, Brown Creeper and Nashville, Orange-crowned, and Pine Warblers. The flock was very active and involved at least 40 individual birds.]



Orange-crowned Warbler, Patagonia, AZ, March 2006.
Photo by Glenn Walbek

Such unusual passerine groups are fascinating because there has to be something unusual going on with food. In this case I think the answer was aphids, perhaps two types, but for sure one in the genus *Cinara* (probably *C. ponderosae*). These are very large, common aphids that produce copious amounts of sugary excrement called "honeydew." Like most aphids, they have phases in

which females produce live-born female babies parthenogenically (without need of mating with males). This makes for very rapid buildups on occasion. (For example, I collected 4 adult female aphids on 28 November 2006 at 4 p.m.. At 9 a.m. the next day there were 8 aphids—the 4 females and 4 live nymphs.) The pines in the park were very sticky and shimmery, and some even showed droplets of honeydew at the tips of the needles.

Multicolored Asian Ladybird Beetles (an introduced exotic species that has reached pest status in parts of North America because it tends

to come inside homes in the winter) and large numbers of yellow-jacket wasps were trying their best to eat aphids and/or graze on the honeydew glaze coating everything. Most of the trees showed blackish bark, which is a type of sooty mold (a fungus) that grows on accumulated, chronically-produced honeydew. Thus it appeared that the aphid numbers had been elevated for several months, if not years.

As an aside, during the severe drought years of 2001-2003 in southwestern Colorado, we noticed elevated populations of *Cinara* aphids on many hosts. I can't really explain why insects that suck sap would do well when moisture available to their host trees is limited. Perhaps it has something to do with increased

concentrations of nutrients they're after in the sap, but there does seem to be a correlation. I really don't know the moisture situation with Pueblo's trees; I do know Pueblo got good amounts of moisture in late summer but maybe not all that much in the fall.

At any rate, all the bird species in the flock seemed to be eating these little "sugar pills" and that was what allowed them to sustain themselves well after most of them should have migrated.

I would also speculate that this phenomenon—or something similar, such as striped pine scales—is involved at the Denver West office complex, where warblers seem to hang out in winter. Striped pine scales were involved in the Palm Warbler/Pine Warbler event at Boulder's East Campus of CU during the winter of 1992-1993.

Lastly, I think the annual presence of one or more sapsuckers in Pueblo City Park is further evidence that these pines, for whatever reasons, have "fancy grade" sap in good quantities. It all goes together and, if we only knew the particulars, would make for a great book.

David Leatherman, 612 Stover Street #7, Fort Collins, CO 80524, 970-416-0193, daleatherman@msn.com

Hugh Kingery, P.O. Box 584, Franktown, CO 80116, ouzel@juno.com



Brown Creeper, Genesee Park, Jefferson County, January 29, 2007. Photo by Tony Leukering

Montrose County: Highways 50 & 550

Connie Kogler

While you are out and about birding the many natural wonders of Montrose County, I can assure you that you don't need to go hungry, thirsty, or caffeine-deprived. There is no shortage of places to stop for a tasty bite along highways 50 and 550. Many of these fine restaurants will also pack you a meal to go.

We'll start on Main Street in Olathe (that's pronounced "o-LAY-thuh"), where we will find a hefty slice of Americana: the Busy Corner White Kitchen. When you step into this restaurant, you step back in time. Happy, helpful waitresses with beehive hair and stretch, creased Wranglers will greet you with a "How ya doin', Hon?", getting you seated promptly with hot coffee in hand. The Busy Corner serves heaping, generous portions of typical breakfast fare and offers plenty of good choices for a Tex-Mex lunch and dinner. While I would consider the food merely average to good, there is always plenty of it and the prices are affordable. The empanada cherry pie with ice cream is a great treat

after a long day of birding. Plus you can always get hot tips on what's happening at the Olathe Sweet Corn Festival in August—not one to miss!

Just off the frontage road, north of the only stoplight in Olathe, is a little spot called Pepe's. It has the best, freshest, tastiest homemade Mexican food around, with quick service and takeout. I dare you to try their "sombritos": fry bread shaped like a sombrero, smothered in your choice of toppings. My "fave" is pintos, cheese, lettuce, and tomatoes.

Continuing south on 550/50 we come into Montrose to the Backstreet Bagel Shop. Open early for breakfast, they serve the best bagels in the state (yes, even



Backstreet Bagels, Montrose. Photo by Connie Kogler

better than anything I've had here on the Front Range) any way you like them. There's always good coffee, good music and a nice atmosphere. Their toasted bagel with egg, sausage, or bacon and cheese only sets you back about \$3.50, coffee included. If you stop, do remember to bring me home a dozen of their sun-dried tomato parmesan bagels. Please.

In the time before Starbucks—and in Montrose there was such a time, not too long ago—Coffee Trader on East Main Street was where it was happening. Now, in the Starbucks era, Coffee Trader still is where it is happening. They serve a huge variety of hot and cold coffees and teas and can always whip up that special drink you might need. How about my favorite? A hot Britannia: white chocolate mocha with English toffee flavoring. Wow! The place has a comfortable, homey atmosphere, with local arts and crafts on display,



Coffee Trader, Montrose. Photo by Connie Kogler

ensuring that you will leave refreshed and entertained. During the summer on Thursday nights they have local musicians in their outdoor seating area.

My family would flog me if I did not also include Fiesta Guadalajara on the corner of West Main and Selig Avenue in Montrose. They serve great Mexican food at great prices, and plenty of it. I think their salsa and chips are some of the best around. It's because of the friends that two of my older children, Mary and Cyrus, made there that they are now traveling and exploring Mexico and Costa Rica and have become quite fluent in Spanish. Mary is considering the possibility of teaching English in Mérida, Mexico sometime in the future. (But they aren't birding... sigh.)

Motoring further south now on Townsend Avenue, we find Starvin' Arvin's. Our daughter Maggie loves to sit by their giant saltwater fish tanks while enjoying her gigantic cinnamon roll. Our favorite for breakfast, when we are REALLY hungry, is the Green Supreme: eggs any way you like them, hash browns, green chili, and white gravy, topped with cheddar cheese and accompanied by a giant homemade biscuit with honey. Those



Starvin' Arvin's, Montrose. Photo by Connie Kogler

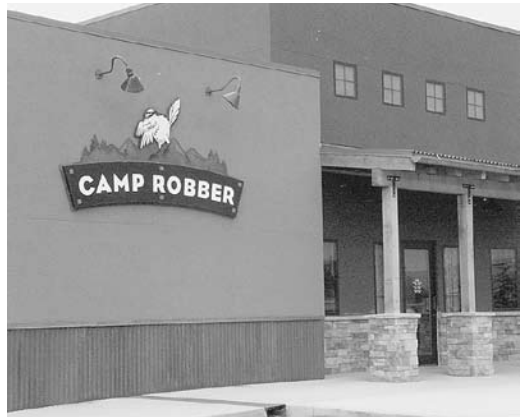
counting calories may need a calculator on this one. Mmm! This could be your breakfast-lunch-and-dinner combined, especially if you have a full day on the Uncompahgre Plateau planned. Starvin' Arvin's also has a nice variety of meal choices for any time of the day. I love their chicken-fried steak for dinner—that is, if I'm not still full from breakfast.

For dinnertime eating with a classy atmosphere,

I recommend The Camp Robber Café. This local establishment recently moved from West Main across from Fiesta to south Montrose, near all the booming construction. A delicious, eclectic menu, modest portions, and a peaceful setting make this a delightful dining experience. The price range is roughly \$7 to \$18.

A couple of other Honorable Mentions are Sicily's for great Italian cuisine on East Main Street and Panda Palace for tasty Chinese food across from Montrose High School on South Townsend.

So, whether you've spent the day deep in the Black Canyon of the Gunnison searching for your elusive nemesis bird or high on the Uncompahgre Plateau looking for that vagrant warbler, going hungry or without good coffee in Montrose County needn't be one of your worries.



Camp Robber, Montrose. Photo by Connie Kogler

Connie Kogler,
ckogler@mac.com

Winter 2006 – 2007 Report (December – February)

Peter R. Gent

The winter season started off quite warm, such that the December average temperature at Denver International Airport was a little above normal. However, Colorado was hit by two very severe storms in late December, and the remainder of the winter season was cold. The DIA average temperature for January was 20.8° F, which is 8.4° F below normal, and for February was 29.1° F, which is 4.1° F below normal. One DIA temperature record was set when the low temperature on 2 February dropped to -18° F. Consequently, most of the reservoirs along the Front Range froze over by about 20 December and remained frozen for the rest of the season. Precipitation and snowfall were well above average during December throughout the state, and it was the third snowiest December on record for Denver. Snowfall was also above average in January, but nearer normal in February, and snow remained on the ground throughout most of the season on the Eastern Plains. I should also note that the blizzard near the end of December was very severe in the southeast corner of the state, with very heavy snowfall and drifting.

This blizzard in the southeast certainly affected many birds there; many either did not survive or were forced to go elsewhere. This spring the numbers of Lesser Prairie-Chickens seen on the leks in this area has been considerably reduced, and ground-dwelling species such as Scaled Quail have not been seen at all on several ranches in the area. However, Chihuahuan Ravens and Eastern Bluebirds apparently survived by heading northwest to the Front Range, where both species were seen in much larger numbers than usual from Larimer County south to Fremont and Pueblo Counties. Difficulty in identification makes estimating the number of Chihuahuan Ravens a real problem, but Ted Floyd hypothesized that there could have been a few hundred in Boulder County this winter.

Another interesting phenomenon this winter was that Bohemian Waxwings were seen in good-sized flocks in the northwestern corner of the state, from Craig to Steamboat Springs. However, they were not seen in numbers elsewhere in Colorado. I think this rather unusual, because in most winters, if there is an irruption of this species, it occurs throughout the state.

Other rare species seen this winter were a Brant in Aurora; a male Eurasian Wigeon in Rocky Ford; a Yellow-billed Loon in Lafayette; Gyrfalcons in North Park and south of Fort Collins; three Iceland Gulls from Lake Loveland, Valmont Reservoir, and Pueblo Reservoir; three Glaucous-winged Gulls from Pueblo, Valmont, and Big Johnson Res-



Varied Thrush, Idledale, Jefferson County, January 2007.
Photo by Trish Tofte

ervoirs; a Black-legged Kittiwake at Cherry Creek Reservoir; a very unusual five Pine Warblers in Pueblo, Cañon City, Denver, and Longmont; and three Golden-crowned Sparrows from Delta County, Boulder County, and Cañon City.

Thanks to everyone who sent in their sightings, and to all the people who collected the postings off COBirds and elsewhere.

Note 1: *The reader of this report should be aware that many of the sightings of rare and unusual species used in this report have not been supported by documentation sent to the CFO Colorado Bird Records Committee (CBRC); those that have been documented are noted in the text. Underlined species are those for which the committee desires written documentation and/or photographs. You should now submit your sightings through the CBRC website at <http://www.cfo-link.org/CBRC/login.php>. This is the preferred method of submitting records. However, if you need a form, use the one on the inside of this journal's mailer. Documentation should be sent to the chairperson, Larry Semo (address on form).*

Note 2: *The name of the county is typically listed in italics only the first time each location is mentioned in the report. County names are usually not mentioned in subsequent records except to specify the placement of birds within sites bisected by county lines.*

Note 3: *Abbreviations used in this report: Co – County; CR – County Road; doc – documentation submitted to the CBRC; m.ob. – many observers; Res – Reservoir; SP – State Park; SWA – State Wildlife Area.*

Greater White-fronted Goose:
The only West Slope report was of up to four birds seen at Zink's Pond, *La Plata*, between 2 Jan and 23 Feb (JBe, SA, m.ob.).

Ross's Goose: The high count was of 4200 on the John Martin Res CBC, *Bent*, on 14 Dec (*vide* DN), and the only West Slope report was of one seen at Zink's Pond on 15 Jan (PD).

Brant: One was seen at the Aurora Municipal Center, *Arapahoe*, on 9 and 10 Jan (DL, MAB).

Trumpeter Swan: A very good year for this species, with 14 birds reported. Two were seen in Rifle, *Garfield*, between 2 and 9 Dec (KPo, DF, TM, AL); two were at Bud Mielke Res, *Larimer*, on 14 Dec (CW); an adult and two immatures were seen in Salida, *Chaffee*, between 15 Dec and 19 Jan (SY); and an adult and immature were at Berthoud Res, *Larimer*, between 27 Dec and 20 Jan (CW, TLe, MP). An adult was seen at Lake Minnequa, *Pueblo*, on the Pueblo CBC on 31 Dec (DSi); two were seen on Lake Estes, *Larimer*, on 15 and 16 Jan (GM); an adult was seen on farm ponds north of Boulder, *Boulder*, between 8 and 25 Feb (LAG) and on Golden Ponds in Longmont, *Boulder*, on 26 Feb (BSc); and, finally, another adult was seen on John Martin Res, also on 26 Feb (*vide* DN).

Tundra Swan: The only reports were of two seen at Bud Mielke Res on 14 Dec (JL) and an adult and juvenile seen on Pueblo Res, *Pueblo*, on 16 Jan (BKP, JW, doc).

Eurasian Wigeon: A male was seen at Valco Ponds in Rocky Ford, *Otero*, between 13 and 23 Dec (SO, m.ob., doc).

Surf Scoter: One was seen on the John Martin Res CBC on 14 Dec (*vide* DN, apparently found before

count day), and a female/immature was seen on Pueblo Res between 4 Jan and 28 Feb (PH, JD, m.ob.).

Long-tailed Duck: It was also a very good winter for this species, with 12 birds reported. A male and female were at Cherry Creek Res, *Arapahoe*, between 1 and 15 Dec (RO, SK, GW); a female was seen in Carbondale, *Garfield*, on 9 Dec (LW), at Roaring Fork Ranch, *Garfield*, on 16 Dec (LV, TM, doc), and at Blue Lake in El Jebel, *Eagle*, between 16 and 22 Dec (AL, DF). A female was seen at John Martin Res between 14 Dec and 28 Feb (DN); another female was seen at Pueblo Res between 3 Jan and 19 Feb (BKP, m.ob.); two were seen at the Sterling wastewater plant, *Logan*, on 3 Jan (BBo, AW); a superbly plumaged adult male was seen on the Platte River near 74th Street, *Adams*, between 29 Jan and 4 Feb (BT, SMI, TLe, m.ob.); and, finally, another fe-



Long-tailed Duck, South Platte River, Adams County, February 3, 2007. Photo by Glenn Walbek

male was seen at Big Johnson Res, *El Paso*, on 20 Feb (MP).

Barrow's Goldeneye: This species was seen at its usual West Slope haunts, and in ones and twos along the Front Range. More unusual reports included up to 14 seen in Salida between 3 Dec and 28 Feb (SY, RM, m.ob.); two seen at McPhee Res, *Montezuma*, on 5 Dec; two on the Animas River south of Durango, *La Plata*, between 5 Dec and 28 Feb (JBe, JBr, PD); two seen at Lake Evergreen, *Jefferson*, on 13 Dec (KN); a female seen in Rocky Ford on 15 Dec (DN, SO); and a male seen on Lake Estes on 22 Dec (SR).

Yellow-billed Loon: The juvenile seen at Erie Res, *Boulder*, late in the fall continued from 1 to 4 Dec (WS, PG, AS, m.ob., doc). It perished during an attempt to rescue it from the very small patch of open water left in the reservoir, from which it couldn't take off.

Red-necked Grebe: One was seen at Pueblo Res between 1 and 4 Dec (GW, JK); one was seen at Chatfield Res, *Jefferson/Douglas*, between 19 and 24 Dec (JK, GW, BKP); and one was again at Pueblo Res between 1 and 15 Jan (BM, m.ob.).

Rough-legged Hawk: This species was again hard to find this winter even on the Eastern Plains; there were very few sightings in *Boulder*, for example.

Gyrfalcon: One was seen in North Park, *Jackson*, on 24 Dec (NK), and a juvenile was seen between Loveland and Fort Collins, *Larimer*, on 24 and 25 Feb (NK, doc).

Least Sandpiper: Very unusual in winter was one seen at Valco Ponds in Pueblo between 16 and 23 Dec (BKP, BM, doc).

Baird's Sandpiper: Extremely late was one seen at Lake Cheraw, *Otero*, on 5 Dec (SO). The bird should have been somewhere in South America by that date.

Mew Gull: An adult was seen at Pueblo Res between 13 Dec and 20 Feb (BKP, m.ob., doc), and was joined by a first-year bird on 15 Dec (BKP, doc); and an adult was seen at Runyon Lake, *Pueblo*, on 11 Feb (RM).

Iceland Gull: A juvenile was reported from Lake Loveland, *Larimer*, on 14 Dec (NK, doc); a first-cycle bird was seen at Valmont Res, *Boulder*, between 29 Dec and 15 Jan (TF, BSc, SLr); and another first-cycle bird was at Pueblo Res between 11 Jan and 25 Feb (BKP, GW, m.ob., doc).

Glaucous-winged Gull: A first-year bird was seen at Pueblo Res between 1 and 8 Dec (BKP, MP); another first-cycle bird was seen at Valmont Res between 19 Dec and 15 Jan (TF, BSc); and yet a third was seen at Big Johnson Res on 1 Jan (BM).

Glaucous Gull: A good season for this species, with a total of 20 birds reported. They were all along the Front Range from the Rawhide Power Plant, *Larimer*, south to Pueblo Res.

Great Black-backed Gull: An adult was seen at Pueblo Res throughout the season (MP, BM, BKP, doc), and was joined by a second-year bird between 4 and 11 Dec (BKP, doc); another adult was seen at Lake Loveland between 4 and 18 Dec (JL, AS, doc); an adult and first-cycle bird were seen at Valmont Res between 20 and 30 Jan (TF, BSc, PG, m.ob.); and probably the same first-cycle bird was at Erie Res on 10 Feb (TF).

Black-legged Kittiwake:

A first-year bird was seen at Cherry Creek Res between 7 and 16 Dec (GW, m.ob., doc).

Band-tailed Pigeon:

Very unusual winter sightings were of one photographed south of Rye, *Pueblo*, on 30 Dec (POB) and a small flock at a feeder in Green Mountain Falls, *El Paso/Teller*, throughout the season (RB).

Yellow-bellied Sapsucker: Fourteen birds were reported this season,

which is exactly the same number as last winter. Most were seen in the usual locations along the Front Range from Grandview Cemetery in Fort Collins, *Larimer*, south to Beulah, *Pueblo*. An adult female was seen at Willow Creek Park in Lamar, *Prowers*, on 6 Dec (DAL), and an adult male was seen at the Fairmount Cemetery in Lamar on 23 Feb (NE).

Red-naped Sapsucker: Very unusual in winter were one seen in Nucla, *Montrose*, between 1 and 7 Dec (BW, CD), an adult female at the Holy Cross Abbey in Cañon City between 12 Dec and 18 Feb (SMo, BKP, m.ob., doc), and an adult male seen in Beulah, *Pueblo*, on 1 Jan (MY).

Black Phoebe: Two spent most of the winter in the Rock Creek and Valco Ponds area in *Pueblo, Pueblo*, between 1 Dec and 19 Feb (MP, BKP, m.ob., doc).

Chihuahuan Raven: High counts



Black-legged Kittiwake, Cherry Creek SP, Arapahoe County, December 7, 2006. Photo by Glenn Walbek

this season were of seven seen on the John Martin Res CBC on 14 Dec (*fide* DN), another seven seen at CF&I Lakes, *Pueblo*, on 31 Dec (DSi), six seen at Boulder Creek and 75th Street, *Boulder*, on 23 Jan (BSc), and another six seen at Waneka Lake in Lafayette, *Boulder*, on 6 Feb (TF).

Barn Swallow: One was seen on the very late date of 30 Dec southwest of Durango, *La Plata*, on the CBC (H&RM, LF).

Carolina Wren: One spent the entire winter at the Cañon City Riverwalk, *Fremont* (MP, SMO, m.ob.); one was seen at the Lamar Community College between 6 Dec and 25 Feb (DAL, m.ob.); and another was seen at Willow Valley in Lamar on 1 Jan (JT).

Winter Wren: Only eleven birds were reported this season, all from the eastern part of the state. The high count was of three on the John Martin Res CBC on 14 Dec (*fide* DN).

Blue-gray Gnatcatcher: This species is rare in winter, but one was seen on the John Martin Res CBC on 14 Dec (*fide* DN; apparently found before count day).

Eastern Bluebird: There were many reports from locations all along the Front Range this winter. Largish flocks included up to 19 seen at Rock Canyon in Pueblo between 1 Dec and 19 Feb (BKP, MP, m.ob.), 21 seen at Lon Hager Res, *Larimer*, on 6 Dec (CW), and 17 seen at the Cañon City Riverwalk on 9 Dec (BKP, BSt).

Varied Thrush: Single males were seen at Crow Valley Campground, *Weld*, between 17 and 19 Dec (DAL, ED, CW, NK, doc), in north Fort Collins between 21 Dec and 2 Jan (BBI, doc), and near Florence, *Fremont*, on 5 and 6 Jan (SO, TLe, m.ob., doc). Another bird visited Idledale, *Jefferson*, irregularly between Dec and Feb (TT). A one-footed male was at Debra Sparn's house in east Boulder between 21 and 23 Jan (DSp, PG, BSc); a male was seen at the DOW fish hatchery in Durango on 25 Jan (JF, H&RM, m.ob., doc); and a final male was seen in Fort Collins between 29 and 31 Jan (J&AC, doc).

Bohemian Waxwing: There were quite large flocks reported from the northwest part of the state this winter, but not from the rest of the state. At least 225 were seen at Fish Creek Falls in

Steamboat Springs, *Routt*, between 29 Dec and 11 Jan (TLi), and up to 90 were seen in Craig, *Moffat*, between 12 and 27 Jan (FL).

Pine Warbler: Another very good winter for this species, with five birds reported. A first-year female and adult male were seen in Pueblo City Park between 1 and 3 Dec (BKP, m.ob.); one was at Rouse Park in Cañon City on 3 Dec (RM); one was seen in the Denver West Office Park, *Jefferson*, on 7 Jan (K&JS); and, finally, not to be outdone by his parents, Bill Schmoker found one at his house in Longmont on 24 Jan (BSc).

Fox Sparrow: One individual of the slate-colored race was noted on the Bonny Res CBC, *Yuma*, on 5 Jan (*fide* GW).

Swamp Sparrow: Only 14 birds reported this winter, which is well below average. The report from the most unusual location was of an adult seen near



Varied Thrush, Boulder, Boulder County, January 22, 2007. Photo by Bill Schmoker

Yucca House in Mesa Verde National Park, Montezuma, on 24 and 25 Jan (SA, PD, JBe).

White-throated Sparrow: Only nine reports this winter, which is also well below average. Noteworthy was one seen in Grand Junction, Mesa, between 8 Dec and 12 Feb (LA, m.ob.).

Harris's Sparrow: There were 40 birds reported this winter, which is well above average. The only West Slope reports were of one seen on Cattle Creek Road, Garfield, on 16 Dec (AL) and an adult and an immature seen near Cortez airport, Montezuma, on 17 and 18 Jan (SA, JBe, BBy).

Golden-crowned Sparrow: For the fourth year in a row, one was seen at Dave Galinat's house near Fruitgrowers Res, Delta, between 1 and 26 Dec (DG); one was seen at the Parrish Ranch, Boulder, between 16 and 31 Dec (POp, BC, PG, JV, m.ob., doc); and an immature was seen at Tunnel Drive in Cañon City between 2 and 28 Feb (RM, m.ob., doc).

McCown's Longspur: Really lost was the male seen just east of Meeker, Rio Blanco, on 6 Jan (DH).



Fox Sparrow, slate-colored race, Bonny SP, Yuma County, January 5, 2007. Photo by Bill Schmoker

Snow Bunting: A flock of 12 was seen along E-470, Adams, on 23 Dec (ABo); two were seen at Standley Lake, Jefferson, on 28 Dec (LS); and one was seen at Chico Basin Ranch, Pueblo, on 4 Jan (BKP, BM, CW). One was seen at



Harris's Sparrow, Chico Basin Ranch, El Paso County, March 2, 2007. Photo by Bill Maynard



Golden-crowned Sparrow, Cañon City, Fremont County, February 25, 2007. Photo by David Elwonger

96th and Tower Road, Adams, on 13 Jan (LK); one was seen at CRs 15 and 74, Larimer, on 15 Jan (RH); and the final one was seen at Pueblo Res on 28 Jan (TLe, BKP).

Northern Cardinal: Birds seen much farther west than usual were a male near the Garden of the Gods, *El Paso*, throughout the season (KPa, m.ob.) and another male in Colorado City, *Pueblo*, between mid-December and 3 Jan (MB, DSi).

Rusty Blackbird: A very good year for this species, with three seen at Fort Lyon, *Bent*, on 1 Dec (DN), another three seen at Rock Canyon

in Pueblo on 4 Dec (BKP), and one seen on the John Martin Res CBC on 14 Dec (*vide* DN). Seven were seen on the Denver CBC at Chatfield Res on 16 Dec (JK, m.ob.); two were again seen at Rock Canyon between 18 Dec and 2 Jan (BKP, m.ob.); and nine were seen on the Florence CBC on 5 Jan (MP, BM, CW).

Common Grackle:

One cold individual was seen on the Silverton CBC, *San Juan*,

on 8 Jan (CS, JBr).

Black Rosy-Finch: Quite large flocks were seen in several locations this winter. 50 were seen in La Veta, *Huerfano*, on 28 Dec (SLt, TD); 250



Northern Cardinal, Colorado Springs, El Paso County, March 17, 2007. Photo by Bill Maynard



Rusty Blackbird, Pueblo SP, Pueblo County, December 26, 2007. Photo by Bill Maynard

were seen at Tunnel Drive in Cañon City on 29 Dec (RM); 20 were seen just north of Meeker on 8 Jan (DH,

FL); and 40 were seen in Cañon City on 15 Jan (RM).

Cassin's Finch:

This species is rare in *Prowers*, but one was seen in the Willow Creek area of Lamar on 8 Jan (JT).

Common Redpoll:

Just two birds reported this winter, with one seen on the Bonny Res CBC on 6 Jan (*vide* GW) and one seen at Pueblo Res on 14 Jan (BKP, BM, PH).

Lesser Goldfinch:

A small flock of eight birds came to the feeders at Dick Filby's house in Carbondale throughout the entire winter (DF).

CONTRIBUTING OBSERVERS

SA: Susan Allerton; LAG: Linda Andes-Georges; LA: Larry Arnold; MB: Melodie Baker; JBe: Jim Beatty; BBl: Bob Blinderman; MAB: Mary Ann Bonnell; BBo: Bruce Bosley; ABo: Andy Boyce; JBr: John Bregar; RB: Richard Bunn; BBy: Barb Byron; BC: Bruce Clifford; J&AC: June and Alex Cringan; ED: Eric DeFonso; PD: Peter Derven; CD: Coen Dexter; TD: Tom Doerk; JD: John Drummond; NE: Norm Erthal; LF: Leland Flores; TF: Ted Floyd; DF: Dick Filby; JF: Jim Foster; DG: Dave Galinat; PG: Peter Gent; DH: Dona Hilkey; RH: Rachel Hopper; PH: Paul Hurtado; JK: Joey Kellner; SK: Steve Kennedy; LK: Loch Kilpatrick; NK: Nick Komar; JL: Joe LaFleur; SLR: Steve Larson; SLT: Sterling Lathrop; DAL: David A. Leatherman; TLe: Tony Leukering; AL: Al Levantin; TLi: Tom Litteral; FL: Forrest Luke; DL: Dennis Lyon; GM: Gary Matthews; BM: Bill Maynard; TM: Tom McConnell; RM: Rich Miller; SMI: Steve Mlodinow; H&RM: Heather and Riley Morris; SMO: SeEtta Moss; DN: Duane Nelson; KN: Kay Niyo; POB: Patricia O'Brien; RO: Ric Olsen; POP: Paul Opler; SO: Stan Oswald; KPa: Ken Pals; BKP: Brandon K. Percival; MP: Mark Peterson; KPo: Kim Potter; SR: Scott Roederer; BSc: Bill Schmoker; K&JS: Karen and Jim Schmoker; CS: Chris Schultz; LS: Larry Semo; DSi: David Silverman; DSp: Debra Sparn; AS: Andrew Spencer; BSt: Brad Steger; WS: Walter Szeliga; JT: Janeal Thompson; TT: Trish Tofte; BT: Bill Tweit; JV: John Vanderpoel; LV: Linda Vidal; GW: Glenn Walbek; AW: Anne Wichmann; CW: Cole Wild; LW: Laurel Williams; JW: Jeff Witters; BW: Brenda Wright; MY: Mark Yaeger; SY: Sherrie York.

Peter R. Gent, 55 South 35th Street, Boulder, Colorado 80305, gent@ucar.edu

Colorado's Crossbill Types: 2, 4, and 5

Nathan Pieplow

It's All in the Call

Although many Colorado birders are intimidated by the problem, Colorado is an ideal place for beginners to start identifying crossbill types. Despite what is implied by Sibley (2000), only two crossbill types are common in our state, and a third likely rare but regular. Once you learn these three regular types, you are one-third of the way towards solving one of the continent's thorniest ID problems.

This article will deal with identifying crossbill types by their "flight call." Given either in flight or from a perch, this call is the vocalization most often heard from crossbills (Groth 1993). Keep in mind that crossbills can make a variety of other sounds, including "excitement calls," which are given by crossbills in a variety of circumstances, including flight; "alarm calls," which generally sound similar to the excitement calls; "chitter calls," which are usually given by birds foraging in groups; and a variety of other, more behaviorally specialized calls that are less likely to be heard in the field (Groth 1993). Crossbills sing, too, complexly and beautifully so, but that is a matter for another article—or perhaps a full-on monograph.

You can be reasonably certain you are hearing flight calls if you are hearing a crossbill repeating identical call notes in series at a steady rate of about 3-5 per second for a full second or more. Crossbills of different types rarely flock together, so if you hear two different calls from the same flock of crossbills, you may be hearing non-flight calls, or variations within the flight calls, rather than the calls of a different type of crossbill.

The crossbill flight call most commonly heard in Colorado, by far, belongs to Type 2. This is also the most commonly encountered crossbill across much of the country, as evidenced by the fact that it accounts for at least 19 and possibly up to 23 of the 26 Red Crossbill

The species: Red Crossbill (*Loxia curvirostra*)

The context: Colorado's mountains, any time of year

The problem: The different "types" can be distinguished only by their calls, and even then the distinctions are subtle.

(See photos on back cover.)

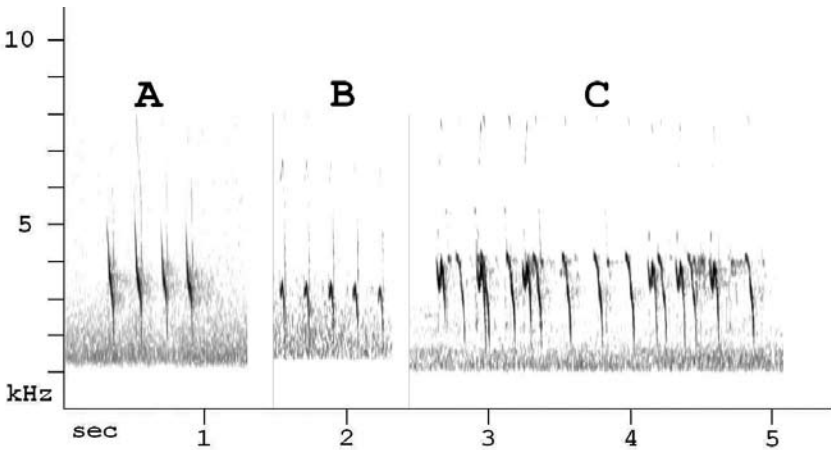


Figure 1. Three sonograms of Type 2 Red Crossbill flight calls, showing variation. (A) Smoothly downslurred variant; recorded December 2005, Boulder County, Colorado. (B) Kinked variant; recorded 15 April 2007, Dolores County, Colorado. (C) Calls of two members of a flock, one with a kinked call, the other with a smooth call; recorded 25 August 2006, Boulder County, Colorado. All recordings and sonograms by N. Pieplow. Listen to these sounds at the CFO website (www.cfo-link.org).

recordings from western North America available online in digital format from the Macaulay Library of the Cornell Laboratory of Ornithology (<http://www.animalbehaviorarchive.org/loginPublic.do>). The “classic” Type 2 call (Fig. 1A) is a clear, sharply but smoothly downslurred whistle which is perhaps best transliterated *pew pew pew*. However, Type 2 flight calls are variable, and many birds give a call that appears distinctly kinked on a sonogram (e.g., Fig. 1B). This “kink” does not affect the listener’s perception of the tone quality or the intonation of the call—it remains a clear, sharply downslurred whistle to our ears. However, the “kink” imparts a harder, louder, and more distinctly consonantal sound to the beginning of each call (a “consonantal onset”), suggesting the transliteration *kew kew kew* with a hard “k” sound. By comparison, the “smooth” variant of the type 2 call begins much more softly and can be surprisingly similar to certain “peeping” calls of Pygmy Nuthatch. Variants of the Type 2 call might be confused with the *pip pip pip* calls of Olive-sided Flycatchers; they can also be compared to the “chirp” of the Yellow-bellied Marmot (T. Hahn, pers. comm.).

The most distinctive call type in Colorado is type 4 (Fig. 2A). It gives a call that is strongly, distinctly upslurred, with a clear tone quality and a sharp consonantal onset similar to that of the “kinked”

type 2 call. This consonantal onset is visible on the sonogram as a fainter, briefer downslurred note that introduces the much louder and longer upslurred portion of each call. If the call is transliterated *kwit kwit kwit* (Sibley 2000), then the consonantal onset is responsible for the strong “k” sound at the beginning of each call. Rarely this is omitted, resulting in a purely upslurred note on the sonogram that is strongly reminiscent of the “whit” calls of certain *Empidonax* flycatchers (e.g., Dusky, Gray, Willow, and Least). Both variants can be heard on a recording from Arizona that is available online at the Macaulay Library website (LNS 87296); the first variant is also heard on a recording from Alberta (LNS 58167). Type 4 seems to be rare or irregular in Colorado, but can sometimes be locally abundant, as it was in the Wet Mountains in 1999 (T. Hahn, pers. comm.).

The most common crossbill in Colorado’s lodgepole pine and spruce-fir forests is call type 5. Among Colorado crossbills, this call type is unique in having two downslurred components that are at least partly simultaneous (Fig. 2B & 2C). Whenever a bird produces two simultaneous sounds that are not harmonically related (that is, when the frequency of the higher sound is not an integer multiple of the frequency of the lower sound), it is likely that the bird is producing sound by using both sides of its syrinx at once (Greenewalt 1968). This situation is relatively rare among North American birds, being perhaps most common in the call notes of the cardueline finches (Pieplow, unpubl.); it may be responsible for the characteristic “finchy” tone of certain vocalizations of goldfinches and siskins, for instance. In the case of Type 5 crossbills it results in a tone quality that is less clear than those of the other two types, one that observers may be more likely to transliterate with words beginning in “ch,” such as *chip chip chip*. Some observers interpret the tone of the call as dully metallic.

Although the two components of the Type 5 call are both strongly downslurred, the call as a whole frequently does not sound strongly downslurred; in fact, it may sound fairly monotone. This may be due to the fact that the second, higher-pitched component frequently starts several hundredths of a second after the first (e.g., Fig 2C), confusing the human ear. This lag time may also impart an added texture to the call note; it may make the call sound slightly disyllabic, in which case it may best be transliterated *klip klip klip*. Under some circumstances, when a large flock of Type 5 crossbills is vocalizing simultaneously, the combination of many high-pitched, mostly monotone, vaguely trilled or disyllabic notes may create the vague impression of a distant group of chirping crickets.

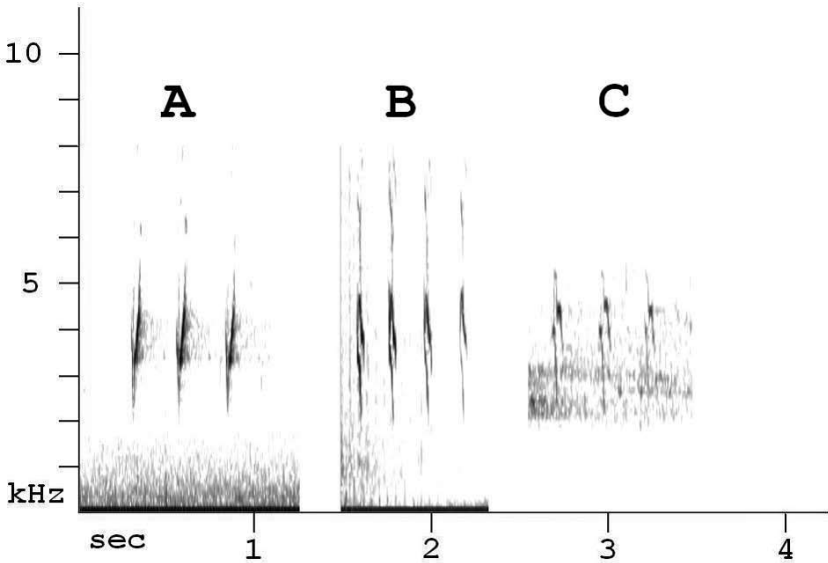


Figure 2. Type 4 and 5 Red Crossbill flight calls. (A) Type 4 flight call, showing the typical strong upslur with a faint consonantal onset; recorded 1990 by C. Benkman from a captive bird captured in Oregon in 1989. (B) Type 5 flight call; recorded summer 2005 by P. Keenan in the South Hills of Idaho. (C) Type 5 flight call, recorded summer 2005 by N. Pieplow in Hinsdale County, Colorado. Sonograms by N. Pieplow. Listen to these sounds at the CFO website (www.cfo-link.org).

Recordings of the examples shown in Figures 1 and 2 can be heard at the CFO website (www.cfo-link.org). In addition, a great many Type 2 recordings and two Type 4 recordings can be heard at the Macaulay Library website (see above). Unfortunately, no Type 5 recordings are yet available online from Macaulay, nor are most of the other call types represented there.

I hope that this article will demystify certain aspects of crossbill identification and encourage many Colorado birders to listen more carefully to these birds. At the same time, I hope it has not oversimplified the problem. Identifying crossbills to type in the field remains a difficult challenge, but for the careful and educated observer, it is frequently not impossible.

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	call type 2	call type 4	call type 5
Suggested name ¹	Ponderosa Pine Crossbill	Douglas-fir Crossbill	Lodgepole Pine Crossbill
Distribution in Colorado	Common year-round in most years; most likely crossbill below 8500 feet; most likely to occur in large flocks; perhaps most likely to wander to the plains	Uncommon to rare, probably more common in winter and on the West Slope; occasionally locally abundant	Uncommon but present year-round; most likely crossbill in lodgepole and spruce-fir forests
Transliterations	<i>kew kew kew</i> or <i>pew pew pew</i>	<i>kwit kwit kwit</i> or <i>whit whit whit</i>	<i>chip chip chip</i> or <i>klip klip klip</i>
Intonation	Strongly or slightly downslurred	Distinctly upslurred	Monotone or slightly downslurred
Tone quality	Clear but not musical; frequently has a sharp consonantal onset	Clear but not musical; frequently has a sharp consonantal onset	Less clear than the other two types, often with a slightly "finchy" or dully metallic tone; may sound vaguely disyllabic
Comparisons	"Typical" crossbill call; some variants suggest calls of Olive-sided Flycatcher or Pygmy Nuthatch; compare chirp of Yellow-bellied Marmot	Some variants suggest "whit" calls of <i>Empidonax</i> flycatchers	Calls of flock may suggest sound of crickets

1: Names follow Benkman (2007).

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Nathan Pieplow, 4745-B White Rock Circle, Boulder, CO 80301, editor@cfo-link.org



Colorado Field Ornithologists
PO Box 431, Lyons, Colorado 80540-0481
www.cfo-link.org

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Nathan Pieplow
4745-B White Rock Circle
Boulder, CO 80301
editor@cfo-link.org

Submissions of photos or graphics not accompanied by articles are welcomed. Send these to Glenn Walbek, gwalbek@comcast.net.



Red Crossbill, Teller County, August 1, 2006. Probable type 2.
Photo by Jeff J. Jones



Red Crossbill, Jefferson County, February 2007. Probable type 2.
Photo by Bill Schmoker